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Banks Loan Loss Provisions Role in Earnings and Capital Management: Evidence from Palestine

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Abstract

This study aims to test whether Palestinian bank managers engage in managerial discretion to manipulate their loan and investment loss provisions to smooth their income or manage their ratios and regulatory capital. A single stage multiple regression model designed by Zoubi & Al-Khazali (2007) was used after modification to achieve the study's objectives on a sample of Palestinian banks for the period 2006 – 2010.

The study found no evidence in support that Palestinian bank managers manipulate loan and investment provisions neither to smooth their income nor to manipulate their debt to equity ratios. There was evidence to suggest that bank managers decrease their loan loss provisions as the gap between their current legal reserve and required legal reserve increases. There was also evidence to suggest that as the loans to deposits ratio increases, bank managers decrease their loss provisions to decrease their perceived risk. It was also found that there is no difference between the loan and investment provision practices in Islamic and conventional banks.

It can be concluded that using a set of detailed rules does not prevent Palestinian bank managers from engaging in managerial discretion. This can be taken into account by regulation setters in choosing between principles-oriented and rules-oriented standards. It also seems that Palestinian bank managers are more concerned with meeting regulatory requirements than window-dressing accounting figures. It is recommended that the PMA should require detailed disclosure from banks on loan loss policies and calculations.

دور مخصص الديون المشكوك فيها في البنوك الفلسطينية في إدارة الارباح و رأس المال

ملخص البحث

تهدف هذه الدراسة لاختبار ما اذا كان مدراء البنوك في فلسطين يتلاعبون في مخصص الديون والاستثمارات المشكوك في تحصيلها كوسيلة لتحسين الدخل أو إدارة النسب و رأس المال التنظيمي. و لتحقيق أهداف هذه الدراسة، تم استخدام نموذج انحدار متعدد ذات مرحلة واحدة على عينة من البنوك الفلسطينية للفترة ما بين سنة 2006 و حتى سنة 2010.

وجدت الدراسة عدم وجود دليل يدعم الفرضية بأن مدراء البنوك في فلسطين يتلاعبون بمخصص الديون و الاستثمارات المشكوك في تحصيلها سواء لتحسين الدخل أو التأثير على نسبة الالتزامات لحقوق الملكية. و قد وجدت الدراسة دليلا يشير الى أن مدراء البنوك يخفضون مخصص الديون و الاستثمارات المشكوك في تحصيلها كلما زادت الفجوة بين الاحتياطي القانوني المعلن و الاحتياطي القانوني المطلوب. و قد وجدت الدراسة أيضا دليلا على تخفيض مخصص الديون و الاستثمارات المشكوك في تحصيلها كلما زادت نسبة القروض لودائع العملاء كمحاولة لتخفيض المخاطر المتصورة عن البنك. و قد بينت الدراسة بعدم وجود اختلاف بين ممارسات حساب مخصص الديون و الاستثمارات المشكوك في تحصيلها للبنوك الاسلامية و البنوك التجارية.

و قد خلصت الدراسة بأن استخدام قواعد مفصلة لم تمنع استخدام مدراء البنوك الفلسطينيين لاحكامهم الشخصية مما يجب اخذه في عين الاعتبار عند المقارنة بين المعايير المبنية على القواعد و المعايير المبنية على المبادئ. كما و يلاحظ ان المدراء مهتمين اكثر بتلبية المتطلبات التنظيمية من تحسين الارقام المحاسبية.

Acknowledgements

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List of Abbreviations

Chief Executive Officer ………………………………………………… CEO

Chief Financial Officer ………………………………………………… CFO

Difference between the current and minimum Capital Adequacy Ratio CAR

Difference between the current and the required Legal Reserve ………… RD

Earnings Management ………………………………………………… EM

European Union ………………………………………………… EU

Financial Accounting Standards Board ………………………………. FASB

Generally Accepted Accounting Principles ………………………………. GAAP

Gross Loans to Customers Deposits Ratio ………………………………. LD

Gulf Cooperation Council ………………………………………………… GCC

Initial Public Offerings ………………………………………………… IPO

International Accounting Standards Committee …………………………. IASC

International Accounting Standards ………………………………………. IAS

International Financial Reporting Standards ………………………………. IFRS

Loan Loss Provision ………………………………………………… LLP

Mergers & Acquisitions ………………………………………………… M&A

Natural Logarithm of Total Assets ……………………………………… LOGTA

Ordinary Least Squares ……………………………………… OLS

Palestinian Monetary Authority ……………………………………… PMA

Return on Assets ……………………………………… ROA

Seasonal Equity Offerings ……………………………………… SEO

Statement of Financial Accounting Standard ………………………………… SFAS

Total Debt to Common Equity Ratio ………………………………… DE

United States ……………………………………………………… US

1. General Background

This section consists of:

1.1 Introduction

1.2 Research Question

1.3 Research Hypotheses

1.4 Research Objectives

1.5 Prior Research Studies

1.1 Introduction

In the last decade, there have been several accounting scandals that shook the accounting world, from Enron, Worldcom, Tyco International, Parmalat, American International Group, to the recent scandal Satyam Computer Services in 2009. These scandals have put a lot of pressure on the accounting profession to come out with measures that prevent creative accounting and accounting fraud. All this have refocused the attention on creative accounting, earnings management, and accounting fraud research.

This study examines bank mangers' incentives to use Loan loss provisions (LLP) to manage earnings and capital. Earnings management occurs when managers use judgment, in this case the discretionary part of LLP, in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company, or to influence contractual outcomes that depend on reported accounting numbers (Healy & Wahlen, 2008). LLP is a significant amount of financial statements in the banking industry, therefore manipulating the LLP will affect the expenses section of an income statement affecting the earnings. It will also affect the assets and the capital sections of a balance sheet.

LLPs are reported by banks as an estimation of uncollectable loans. At the end of each financial year, uncollectable loans regarding that year are estimated and compared to the existing allowance. At most times, the estimated uncollectable loans exceed the existing allowance thus an expense is recorded in the income statement as a charge against revenues and the allowance (a contra asset account) is increased. This procedure is according to the accrual basis and principles of accounting (matching principle) that ensures reliability,

relevance, and comparability of financial statements. However, this procedure entails the use of accounting discretion that may be used by managers to manage earnings and capital.

However, the Palestinian Monetary Authority (PMA), an independent organization responsible for the regulation of the banking industry in Palestine, has specific and detailed rules on the construction and calculation of the Loan Loss Allowance which highly limits managers' discretion over LLPs. Our case is similar to the case of Spain, where Banco de Espana (The Central Bank of Spain) has similar rules on the construction and calculation of Loan Loss Allowance. Perez et al. (2006) conducted a research on the Spanish banking industry to see whether these strict rules were able to prevent managers from earnings management and if there was evidence of earnings management in spite of the strict rules, then the central bank should convert from rule-oriented to principle-oriented standards.

The PMA does not require loss provisioning practices for Islamic banks that are different from conventional banks. Therefore throughout this study the term loan loss provision will be used interchangeably with loan and investment loss provision.

This research will be the first to study whether managers manipulate LLP in the Palestinian banking industry to manage earnings, capital, or both. This examination will shed the light on earnings management (EM) concepts and methodologies that will hopefully open the gate for further extensive research in this field.

1.2 Research Question

As stated earlier, this research is designed to study whether bank managers in Palestinian banks manipulate LLPs to manage earnings and capital and to what extent is this manipulation. Therefore the principal research question can be phrased as the following:

Do bank managers manipulate LLPs to manage earnings and capital?

1.3 Research Hypotheses

Managers tend to manipulate LLPs to smooth their income; they tend to overstate loan provisions when their income is higher than previous years while expecting lower future income. They also tend to understate loan provisions when their income is lower than previous years while expecting higher future income. Therefore the income smoothing hypothesis will be as follows:

H^1: There is a positive relationship between prior years earnings and the LLP.

The PMA require banks to set aside 10% of Net Income into a legal reserve account until this account reaches 100% of share capital. Therefore managers will have an incentive to increase net income increasing the amount transferred to the legal reserve if the account is falling short than the required amount set by the PMA decreasing the gap between the actual reserve and the minimum required reserve. Hence the reserve hypothesis will be as follows:

H^2: There is a positive relationship between the gap of reserve ratio and LLP.

Managers will manipulate LLPs to adjust the debt to equity ratio (DE); as the higher the ratio, the higher perceived risk of the bank. Therefore the DE hypothesis is as follows:

H^3: The higher the Debt to Equity ratio, the lower the LLP for the current year.

Accordingly, three more questions can be derived from the principal research question as follows:

- Is there a positive relationship between prior years earnings and the LLP?
- Is there a negative relationship between the gap of reserve ratio and LLP?
- Is there a negative relationship between the debt to equity ratio and LLP?

1.4 Research Objectives

The objectives of this research are as follows:

1- Study whether bank managers of local banks in Palestine manipulate LLPs to manage earnings and capital.

2- Study the extent, if any, of LLP manipulation in the Palestinian banking sector.

3- Study the incentives of Palestinian bank managers to manipulate LLPs.

1.5 Prior Research Studies

Greenawalt and Sinkey (1988) hypothesized that bank managers use their discretion over loan loss provisions to smooth their income. They studied a sample of 106 U.S. large banks using a Generalized Least Squares technique over the period of 1976 till 1984 and found evidence in support of the hypothesis.

Ma (1988) studied the hypothesis that U.S. bank managers use loan loss provisions and loan charge-offs to smooth their reported earnings. He studied a sample of the largest 45 U.S. banks for the period 1980 to 1984 and found evidence to support his hypothesis. He found that banks tend to raise or lower loan loss provisions in periods of high or low operating income and also adjust loan loss provisions if the current charge-off is higher and if the expected future loan loss provision is lower to comply with the regulatory limit for loan loss reserve accounts.

Moyer (1990) hypothesized that U.S. bank managers adjust accounting measures of loan loss provisions, loan charge-offs, and securities gains and losses to reduce regulatory costs imposed by not maintaining the minimum capital adequacy ratio. Using a regression model, she examined the period from 1981 till 1986 with 845 sample bank-years and found evidence consistent with the hypothesis.

Scholes et al. (1990) tested whether U.S. banks' investment and financing decisions can be explained by tax status. They tested, among other tests, whether banks trade-off the tax advantages of realizing securities losses against the costs of reporting reduced regulatory capital and financial reporting income. They found evidence that banks realize securities gains or defer losses that increase taxation to increase their regulatory capital reducing regulatory costs.

Beatty et al. (1995) suggested that U.S. bank managers try to achieve three conflicting goals; earnings, capital, and tax goals using their discretion over loan charge-offs, loan loss provisions, miscellaneous gains and losses, gains on settling pension plans, and issuances of securities. They designed a methodology that examines these decisions

when made simultaneously. They hypothesized that U.S. bank managers face a cost minimization problem that encompasses the costs of deviating from primary capital, tax, and earnings goals, as well as the costs of exercising discretion over loan loss accruals, transactions such as assets sales, and securities issues. They found evidence that banks manage both capital and earnings using accounting, investment, and financing discretion while they found that tax management was relatively unimportant in the discretion exercised over these transactions.

Beaver & Engel (1996) studied whether the U.S. capital market assigns the same or different prices to the two components of the loan loss provision. They use a two stage approach; the first is to decompose the loan loss provision into estimates of its non-discretionary and discretionary components. The second stage evaluates the market valuation of the estimates of the LLP two components. They studied the period 1977 - 1991 and found evidence that the capital market prices the discretionary component significantly different from the non-discretionary component.

Chen & Daley (1996) examined the degree to which managerial discretion over accruals relating to loan losses in the Canadian banking industry during 1977 – 1987 may have been utilized to manage regulatory capital, taxable income, and reported earnings. They used a three-equation simultaneous model finding evidence of capital management but not income smoothing.

Kim & Kross (1998) investigated whether the 1989 regulatory change in capital ratio computation gave bank managers more incentive to manage capital ratios using loan loss provisions or loan write-offs. They studied the periods 1985 – 1988 and 1990 – 1992,

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they found evidence in support of their hypotheses that bank managers with low capital ratios reduced their loan loss provisions and increased their loan write-offs during the post-change period compared to the pre-change period. While banks with high capital ratios did not change their loan loss provisions but increased their loan write-offs.

Ahmed et al. (1999) studied a sample of U.S. bank holding companies over the period 1986 – 1995, before and after the 1990 change in bank capital adequacy regulation. They hypothesized that banks will have more incentive to engage in capital and earnings management after the 1990 change. They also re-examine the hypothesis that loan loss provisions are manipulated to signal future earnings and the stock price. Using a regression model they found evidence of capital management while not finding evidence of earnings management nor signaling.

Anandarajan et al. (2003) replicated the methodology used by Ahmed et al. (1999) to examine the use of LLP pre- and post the 1992 change in bank capital adequacy regulation in Spain. They studied the period 1986 – 1995; they found that LLPs were not used in capital management after the change. They also found that banks adopted more aggressive earnings management after the change but found no evidence of signaling future earnings.

Rivard et al. (2003) studied a sample of 96 U.S. banking firms during the post Basel accord of 1992 – 1997. Using the same method used by Greenawalt and Sinkey (1988), they found evidence that banks use loan loss provisions as means for income-smoothing. They also found that in the post-accord period banks accelerated their use of this income-smoothing technique.

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Ismail et al. (2005) found that Malaysian banks do not engage in income smoothing using loan loss provisions. They reached that result using an econometric model analyzing 21 Malaysian banks over the period 1996 – 2002. They explained the results that because of tight regulations, bank managers are likely more concerned with meeting regulatory requirements than window-dressing accounting figures to enhance the appearance of financial reports during good times.

Perez et al. (2006) studied the use of LLPs by Spanish banks to smooth their income and manage their capital. They found evidence that Spanish banks do engage in income smoothing while not finding any evidence of capital management. Their findings suggest that using restricted and specific rules to set aside LLPs does not prevent managers from manipulating LLPs to manage earnings and capital.

Anandarajan et al. (2007) studied the use of LLPs in earnings management, capital management, and signaling in Australian banks before and after the adoption of Basel requirements. They studied the period 1991 till 2001 using OLS regressions. They found evidence that earnings management was more aggressive in listed banks than other banks, and more pronounced in the post-Basel period than the pre-Basel period. They also found no evidence of capital management or signaling future intentions of higher earnings.

Zoubi & Al-Khazali (2007) conducted a study over the period 2000 - 2003 on the GCC region. Using a single stage model, they found evidence that bank managers (Islamic & Conventional) in the GCC region smooth their incomes using LLPs manipulation. They found no evidence to suggest that the type of the bank (Islamic or Conventional) does play

an important role in the determination of the LLP. They also did not find any evidence of capital management using LLPs.

Chang et al. (2008) studied a sample of Taiwanese banks over the period of 1999 – 2004 for capital and earnings management. Using a two-step procedure, they found evidence of earnings management through discretionary loan loss provisions but failed to find evidence of capital management.

Curcio & Hassan (2008) examine the relationship between loan loss provisions and earnings and capital management in European banks over the period of 1996 – 2006. Using a regression model, they tested a sample of 907 banks founding evidence that both EU & non-EU banks engage in earnings management while capital management is only engaged by EU banks.

Taktak et al. (2010) studied a sample of 66 Islamic banks over the period of 2001 - 2006. They found evidence of income smoothing but without the use of loan loss provisions. They also found that the lower the capital ratio, the higher the loan loss provision which indicates that Islamic banks involve in less risky activities respecting profit and loss sharing principle compared to conventional banks. They also found that the business cycle does not affect current loan loss decisions of banks.

Leventis et al. (2010) studied whether the adoption of IFRS by E.U. banks will affect the use of loan loss provisions to manage earnings and capital. They studied a sample of 91 banks over the period 1999 – 2008, before and after the implementation of IFRS. They found that banks manipulation of earnings through loan loss provisions has been significantly diminished after the implementation of IFRS. They found that more risky

banks engaged in significant earnings management before the implementation of IFRS which mitigated after the implementation. They also found no evidence to indicate that loan loss provisions are used in capital management, while finding that high risk banks maintain higher loan loss provisions.

As observed by the previous studies, all the studies focus upon a specific accrual within the banking industry, whether it is loan loss provisions, loan charge-offs, securities and miscellaneous gains or losses, or gains on settling pension plans. These specific accruals are considered to be substantial and entail the use of managerial discretion. It is also observed that the methodologies vary from cost minimization problems to double stage regression models. The incentives also vary, whether they are smoothing income, manage earnings, manage capital, manage taxes, or effect stock prices. But the main observation is that the evidence of earnings and capital management is mixed and there is no consensus in the literature. It seems that the evidence of earnings and capital management is mixed according to the place, time, and regulations.

This study will examine the use of the specific accrual, LLP, by bank managers in the Palestinian banking industry using a single stage regression method to test for the incentives of income smoothing and ratio and capital management. LLPs is used as it has a material impact on financial reporting, it constitutes an average of 5% and a maximum of 28% from gross loans of the local Palestinian banking industry. It is also used as it can be manipulated by managerial judgment which is thought to be diminished by the use of specific rules dictated by the PMA.

2. Earnings Management

This section consists of:

2.1 Definition

2.2 Earnings Management Patterns

2.3 Earnings Management Research Designs

2.4 Earnings Management Incentives

2.1 Definition

There have been several attempts to define earnings management, but there is no uniform definition as each has a different perspective on the subject. Beneish (2001) states two kinds of perspectives; the opportunistic and the information perspective. The opportunistic perspective suggests the intention of misleading investors, while the information perspective suggests that managerial discretion could be used to signal private expectations about the firm's future cash flows to investors.

Schipper (1989, pg. 92) defines earnings management as "disclosure management in the sense of a purposeful intervention in the external financial reporting process, with the intention of obtaining some private gain, as opposed to merely facilitating the neutral operation of the process. A minor extension of this definition would encompass real earnings management, accomplished by timing investment or financing decisions to alter reported earnings or subset to it."

Healy & Wahlen (1999, pg. 368) defines earnings management occurrence "when managers use judgment in financial reporting and in structuring transactions to alter financial reports to either mislead some stakeholders about the underlying economic performance of the company or to influence contractual outcomes that depend on reported accounting numbers." This definition only considers the opportunistic approach ignoring the informative approach of earnings management. It also doesn't distinguish between earnings management and normal activities whose output is earnings. (Ronen & Yaari, 2008)

Ronen & Yaari (2008, pg. 27) offer an alternative definition over Healy & Wahlen's (1999) to overcome the shortcomings. They define earnings management as "a collection of managerial decisions that result in not reporting the true short-term, value-maximizing earnings as known to management. Earnings management can be beneficial (signals long-term value), pernicious (conceals short- or long-term value), or neutral (reveals the short-term true performance). The managed earnings result from taking production/investment actions before earnings are realized, or making accounting choices that affect the earnings numbers and their interpretation after the true earnings are realized."

Mulford & Comiskey (1996, pg. 360) defines earnings management as "the active manipulation of accounting results for the purpose of creating an altered impression of business performance."

The above definitions are defined in terms of managerial intent which is unobservable making these definitions hard to operationalize accurately through attributes of reported accounting numbers. (Dechow & Skinner, 2000)

While all the above definitions consider earnings management through the financial reporting process, Schipper's (1989) definition, which also applies to Ronen & Yaari's (2008) definition, also considers the occurrence of earnings management through timing real investment and financing decisions. This thought to be problematic by Beneish (2001) if readers consider real decisions, like foregoing profitable opportunities, as earnings management.

Dechow & Skinner (2000) give a clear distinction between earnings management and financial fraud, an extreme form of earnings management, the first being within the

bounds of Generally Accepted Accounting Principles (GAAP) while the latter being a violation of GAAPs (Figure 2.1). Financial Statement Fraud as defined by Rezaee (2005, pg. 279) "is a deliberate attempt by corporations to deceive or mislead users of published financial statements by preparing and disseminating materially misstated financial statements."

Perols & Lougee (2010) found that firms who have managed earnings in prior years will commit fraud if they have the incentives for it. This finding is expected as a result of accruals reverse, "accruals originating from transactions made in previous periods" (Ronen & Yaari, 2008, Pg. 372). Meaning that reported revenues over the lifetime of the firm must equal total cash inflows and total accruals must equal to zero (Ronen & Yaari, 2008). Therefore, any act of earnings management will have consequences on future years. Then the management has the choice of accepting these consequences or engaging in more earnings management to further postpone these consequences, then engaging in more earnings management, until it engages in fraud. (Beneish, 1997; Scott, 2003; Dechow, Sloan & Sweeney, 1996; Perols & Lougee, 2010)

This research focuses upon the opportunistic side of earnings management where managers use accounting choice or accruals (loan loss provision), not real investing and financing decisions, to serve their benefits of smoothing income or enhancing their ratios and regulatory capital.

	Accounting Choices	"Real" Cash flow Choices
	Within GAAP	
"Conservative" Accounting	Overly aggressive recognition of provisions or reserves Overvaluation of acquired in-process R&D in purchase acquisitions Overstatement of restructuring charges and asset write-offs	Delaying Sales Accelerating R&D or advertising expenditures
"Neutral" Earnings	Earnings that result from a neutral operation of the process	
"Aggressive" Accounting	Understatement of the provision for bad debts Drawing down provisions or reserves in an overly-aggressive manner	Postponing R&D or advertising expenditures Accelerating Sales
	Violates GAAP	
Fraudulent Accounting	Recording sales before they are "realizable" Recording fictitious sales Backdating sales invoices Overstating inventory by recording fictitious inventory	

Figure 2.1 – The distinction between Earnings Management & Fraud.

2.2 Earnings management patterns

Earnings management can be engaged by managers using several patterns; Income maximization, Income minimization, Taking a bath, and Income smoothing.

Income maximization: It's an earnings management strategy that inflates reported earnings which either uses up past reserves of reported earnings or borrows from future reports (Ronen & Yaari, 2008). Managers may use this strategy to maximize earnings-based incentive compensation, minimize debt covenant violations, or meet analyst forecasts of earnings.

Income minimization: It is an earnings management strategy that deflates reported earnings which transfers the reported outcome to future reports (Ronen & Yaari, 2008). Managers may use this strategy to minimize tax payments, minimize political costs, or store present earnings to the future when it significantly exceeds analyst forecasts.

Big Bath (or Taking a Bath): It is an earnings management strategy that recognizes a large nonrecurring charge or expense using a wholesale write-down of assets and accrual of liabilities used to clean-up a company's balance sheet, making it more conservative, some would say excessively so, in an effort to reduce costs and expenses that would serve as a drag on earnings in future years and hence boost future earnings (Mulford & Comiskey, 2002). As the definition shows, this strategy is considered an extreme form of income minimization applied by the management when reporting a loss or not meeting a required level of earnings is inevitable, where the cost is incurred and the harm is done no matter the amount of loss or the gap between the reported and the required level of earnings. Managers may engage this strategy during periods of organizational stress or

reorganization, including the hiring of a new CEO, and to maximize future earnings-based incentive compensations (Scott, 2003).

Income Smoothing: Is a form of earnings management designed to remove peaks and valleys, hence reducing the volatility, from a normal earnings series to convey an impression of a more stable, less risky earnings stream. It includes steps to reduce and "store" profits during good years for use during slower years. This practice will provide the firm with a smooth and growing earnings stream guiding analysts' forecasts reducing earnings forecast surprises resulting in a higher share price (Mulford & Comiskey, 2002). This pattern of earnings management can also be used by managers to obtain less variable earnings-based incentive compensations if they are risk averse and smooth covenant ratios decreasing the probability of violating them (Scott, 2003).

2.3 Earnings management research designs

To detect earnings management, many empirical studies base their hypotheses on accounting manipulation; being less costly than real transactions earnings management as it doesn't affect cash flow and it doesn't restrain the growth of a company. From accounting manipulation methods; accruals manipulation is the most favorite being less obvious and detectable than accounting manipulation like accounting choice. (Verbruggen et al., 2008)

There are three common research designs used in earnings management literature. Some designs are based on aggregate accruals attempting to identify discretionary accruals based on the relation between total accruals and hypothesized explanatory factors. Other designs focus on industry settings in which a single accrual is sizable and requires substantial judgment; it models specific accruals to identify its discretionary and non-

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discretionary components. Other designs examine the statistical properties of earnings to identify a behavior around a specified benchmark to examine whether earning figures above and below the benchmark are smoothly distributed or reflect discontinuities due to the exercise of discretion. (McNichols, 2000)

The three research designs will be discussed in details pointing out the strengths and weaknesses of each design.

2.3.1 Aggregate Accruals

According to Dechow et al. (1995), accrual-based tests for earnings management can be formulated, following McNichols & Wilson (1988), as follows:

$$DA_t = \alpha + \beta PART_t + \sum_{k=1}^{k} \gamma_k X_{kt} + \varepsilon_t$$

DA = discretionary accruals (typically deflated by lagged total assets).

PART = a dummy variable partitioning the data set into two groups for which earnings management predictions are specified by the researcher. Mostly set to one in firm-years in which earnings management is hypothesized and zero in firm-years in which no earnings management is hypothesized. If β has the hypothesized sign and is statistically significant at conventional levels, then the null hypothesis of no earnings management in response to the researcher's stimulus will be rejected.

X_k = (for k = 1, …, K) other relevant variables influencing discretionary accruals.

ε = an error term that is independently and identically normally distributed.

The difficulty of readily identifying the other relevant variables and observing discretionary accruals (DA) by the researcher requires the use of a proxy for management's discretion over accruals (Dechow et al., 1995). This proxy is characterized by DAP for measuring discretionary accruals, DA, with an error, η, that reflects the effects of omitted variables in the estimation of DA as well as idiosyncratic variation (McNichols, 2000).

$DAP_t = DA_t + η_t$

Therefore, the test of earnings management can be formulated in terms of the researcher's proxy for discretionary accruals as follows:

$$DAP_t = \alpha + \beta PART_t + \sum_{k=1}^{k} \gamma_k X_{kt} + \eta_t + \varepsilon_t$$

This model can be summarized as follows:

$$DAP_t = \alpha + \beta PART_t + \mu_t + \varepsilon_t$$

The most used model in the studies of aggregate accruals is the Jones (1991) model, which can be used in time series firm by firm or cross-sectionally using all firms in a given two-digit industry and year. This model was based on Kaplan (1985) suggestion that accruals result from the exercise of managerial discretion and from changes in the firm's economic conditions (Beneish, 2001). It relaxes the assumption that non-discretionary accruals are constant over time and attempts to control the effect of changes in the firm's economic conditions on discretionary accruals (Dechow et al., 1995).

Being an event study, the Jones (1991) model assumes that firms do not manage earnings before the event. Hence, the time series of firm's earnings can be divided into two

periods, estimation period where discretionary accruals equals to zero, and an event period. (Ronen & Yaari, 2008) At the estimation period, the following model is used to yield the estimates of α_1, α_2, and α_3:

$$TA_t = \alpha_1[1/A_{t-1}] + \alpha_2[\Delta REV_t] + \alpha_3[PPE_t] + \varepsilon_t$$

Where,

TA = Total Accruals scaled by lagged total assets at t-1;

A_{t-1} = Total Assets at t-1;

ΔREV_t = revenues in year t less revenues in year t-1, scaled by total assets at t-1;

PPE_t = gross property, plant, and equipment in year t, scaled by total assets at t-1;

α_1, α_2, α_3 = firm-specific parameters.

Then at the test/event period, the estimates of α_1, α_2, and α_3 are substituted into the following equation to find non discretionary accruals:

$$NDA_t = \alpha_1[1/A_{t-1}] + \alpha_2[\Delta REV_t] + \alpha_3[PPE_t]$$

Then discretionary accruals (DAP) are found by deducting the estimated non discretionary accruals (NDA) from total accruals:

$$DAP_t = TA_t - NDA_t$$

Dechow et al. (1995) criticized the Jones (1991) model for the model's assumption that revenues are non discretionary forcing the removal of part of the managed earnings from the discretionary accrual proxy if earnings are managed through discretionary revenues. This will result in too large estimate of non discretionary accruals and

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consequently too small estimate of discretionary accruals. To overcome this problem, they suggest a modified Jones (1991) model for the test/event period only, maintaining the original Jones (1991) model for the estimation period:

$$NDA_t = \alpha_1[1/A_{t-1}] + \alpha_2[\Delta REV_t - \Delta REC_t] + \alpha_3[PPE_t]$$

Where

ΔREC_t = net receivables in year t less net receivables in year t-1, scaled by total assets at t-1

This modified model assumes that all changes in credit sales in the event period result from earnings management justified by the reasoning that it's much easier to manage earnings by exercising discretion over the recognition of revenues of credit sales rather than cash sales. According to their study of evaluating alternative accrual-based tests of earnings management, they found that the modified Jones (1991) model exhibits the most power in detecting earnings management compared to the Healy (1985), De Angelo (1986), Jones (1991), and Dechow & Sloan (1991) models. However, according to McNichols (2000), this modification will result in too small estimates of non discretionary accruals for firms with growing revenues overstating discretionary accruals, as not all the change in receivables is discretionary.

Ronen & Yaari (2008) also criticizes the Jones (1991) model in three points. The first, the Jones (1991) model assumption that no earnings management takes place in the estimation period is questionable. They ran a simulation to test this assumption and found that earnings management existence through the estimation period contaminates the results. As McNichols (2000) explains, the estimation period including the effects of hypothesized earnings management contaminates the estimate of non-discretionary accruals in the test

period by including a normal level of earnings management. In addition, the accruals in the test period will include the reversals of estimation period earnings management as well as the earnings management activities induced by the current test period incentives.

The second, the Jones (1991) model assumption, as a time-series analysis, that the firm-specific parameters α_1, α_2, and α_3 are time invariant which suggests that firms do not adapt their business policies and accruals policy is hard to imagine. McNichols (2000) also adds that incentives to manage earnings may differ across periods leading to an inference of positive or negative discretionary accruals in the test period when there is none. He also states that there should be at least 10 years of data to estimate the firm-specific parameters which can hurt the sample size and their representativeness. To overcome these time-series estimation issues, one could use the cross-sectional estimation approach. However, then the benchmark for each firm's accruals is the behavior of the other firms in the sample which can result in positive or negative discretionary accruals that may not reflect earnings management.

The third, the model does not consider expenses as an independent regressor assuming that expenses are stationary having a fixed ratio of accruals from expense transactions to accruals from sales transactions. This might cause an omitted variables problem or create an accrual conundrum.

2.3.2 Specific Accruals

This approach examines a single accrual account or an income-statement item that has a material impact on reported earnings which can be manipulated within the boundaries of GAAP as it is based on estimates (Ronen & Yaari, 2008). This approach has an

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advantage over the aggregate accruals approach in three areas, as McNichols (2000) states. First, the researcher can use his knowledge in Generally Accepted Accounting Principles to better understand the accounting model and determine the key factors influencing the behavior of the accrual. Second, using this approach enables the researcher to choose an industry at which business practices cause the accrual in question to be material and likely subject to judgment and discretion. Also a specific industry setting can also provide insight on variables to control to better identify the discretionary component of a given accrual. Third, the researcher can directly relate the single accrual and explanatory factors overcoming an estimation error in parameter estimates that aggregation might cause if different components of aggregate accruals relate differently to, say, change in sales.

However, the use of this approach has its disadvantages. McNichols (2000) states three potential disadvantages. First, the specific accrual that management might exercise their discretion upon should be clear reflecting reliably the exercise of discretion or else the power of the test will be reduced. In addition, to identify the magnitude of earnings management one would require a model for each specific accrual likely to be manipulated by management. Second, the researcher should possess more institutional knowledge and data than aggregate accruals approach raising the cost of such approaches. Third, focusing on an industry setting reduces the number of firms for which a specific accrual is managed relative to the number of firms with aggregate accruals. This may limit the ability of the findings to be generalized and may preclude identification of earnings management behavior if specific accruals are not sufficiently sensitive.

2.3.3 The Distributional Approach

This approach assumes that unmanaged earnings have a Gaussian or normal distribution and the evidence of earnings management is the deviation from this distribution (Ronen & Yaari, 2008). It is suggested that if firms have incentives to beat a benchmark, whether it is analysts' forecasts, a prior quarter's earnings, or zero, then the distribution of reported earnings after management will have fewer-than-expected frequency for earning amounts just below the threshold and higher-than-expected frequency for earnings amounts just above the threshold.

Using this approach, the researcher doesn't have to estimate potentially noisy abnormal accruals. It also captures the effects of earnings management through cash flows that may not be captured by unexpected accruals measures. The approach also provides an indication of the frequency of manipulation estimating the pervasiveness of earnings management at these thresholds. However, this approach does not indicate the approaches used by management to manage earnings nor the extent of earnings management and also does not unveil the incentives of management to achieve specific benchmarks. (Healy & Wahlen, 1999, McNichols, 2000, Beneish, 2001)

2.4 Earnings management incentives

2.4.1 Bonus Maximization

Managers will have the incentive to manage earnings if their compensation plans are based upon reported accounting earnings. Healy (1985) was one of the first to investigate this by studying a sample of 94 listed Industrial companies between the years

1930 and 1980 whose compensation plans were based upon reported earnings. He hypothesized that if earnings were above a cap, the upper limit to compensation, then managers will engage in income-decreasing earnings management. This because the manager tries to reserve the excess earnings to support future years' compensations as the current compensation is already maximized. He also hypothesized that if earnings were below a bogey, the threshold level of performance, then managers will also engage in income-decreasing earnings management. This because no matter what is done the maximum compensation could not be reached foregoing the chance of compensation in the current period while increasing the chance of future compensation. He also hypothesized that if earnings were in between the cap and the bogey, then managers will engage in income-increasing earnings management trying to maximize compensation.

The observations were then classified into three different portfolios, one consisted of firms below the bogey, another consisted of firms above the cap, and another consisted of firms between the bogey and the cap. Using total accruals as a proxy of discretionary accruals interpreting the change in accruals as evidence of earnings management, Healy (1985) found evidence in support of his hypotheses.

Holthausen et al. (1995) extend the work of Healy (1985) by acquiring actual confidential compensation data on whether managers' compensations were zero, greater than zero but less than the maximum, or at the maximum. Using a version of the Jones (1991) model, they test a sample of 443 firm-years for the period of 1982-1990. They found, like Healy (1985), that managers with maximum bonuses manage earnings downwards. But unlike Healy (1985), they did not find evidence to support the hypothesis

that managers with zero bonuses manage earnings downward suggesting that Healy's (1985) methodology were likely to induce his lower bound results.

Gaver et al. (1995) also extend the work of Healy (1985) studying a sample of 102 firms over the period of 1980-1990. They found evidence that supports the results found by Holthausen et al. (1995) that managers manage earnings upward when earnings are below the lower bound and vice versa. These study results, as they conclude, are more consistent with income smoothing than Healy's bonus maximization hypothesis.

Guidry et al. (1999) study whether business-unit managers manage earnings to maximize their short-term bonuses. They study 179 business unit-years for the period 1994-1995 using multiple measures of discretionary accruals founding evidence consistent with Healy (1985).

2.4.2 CEO Turnover

Considering CEO turnover, two phases should be taken into account. The first is the departing CEO and the second is the incoming CEO as each has a different incentive for earnings management therefore engaging in different patterns of earnings management.

Guan et al. (2005) study earnings management in a CEO turnover environment focusing on forced CEO dismissals. They found evidence that CEOs faced with termination do engage in income-increasing earnings management which is expected as they may try to increase their compensation before dismissal without any regard for long-term repercussions. They also found evidence suggesting that the incoming CEOs deliberately engage in income-decreasing earnings management which is also expected as they try to blame the predecessor of poor performance while saving earnings for future periods.

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2.4.3 Insider Trading

Information asymmetry can cause CEOs and top executives benefit from trading their stocks or executing their options. They also can use their executive decision making in engaging in earnings management to manipulate stock prices and react to accomplish personal benefits.

Bergstresser & Philippon (2006) found evidence that CEOs whose overall compensation is more sensitive to company share prices lead companies with higher levels of earnings management. They also found that CEOs and top executives exercise significant unusual options as well as share unloading in periods of high accruals.

Park & Park (2004) found evidence that managers adjust discretionary accruals to increase their firm's current-period earnings when they tend to sell their shares in the subsequent period. To address an alternative interpretation that managers sell their shares after they observe unusual high earnings regardless of earnings manipulation, they employ a two-stage least square approach. The 2SLS estimation suggests that managers tend to time their insider sales after observing unusually higher accruals, but they are also likely to be actively involved in accruals management before insider sales for their own benefit.

Ke et al. (2003) hypothesize that insiders sell stock well in advance of a break in a series of consecutive earnings increases to avoid the appearance of taking advantage of insider information while avoiding negative stock returns proceeding the break. They found little evidence of unusual insider trading in the two quarters immediately preceding the announcement of the break. They however find evidence of an increase in the frequency of net insider sales in the ninth through third quarter preceding a break.

2.4.4 Management Buyouts

It is hypothesized that management bidding for buying the firm in which they work for engage in income-decreasing earnings management prior to the buyout to understate the value of the firm thus decreasing the amount paid by them.

Marquardt & Wiedman (2004) study 100 firms' management buyouts over the period 1995 – 1999 using a two-stage method that first detects earnings management by total discretionary accruals and then identifies the individual accruals that might be used by management to achieve their earnings goals. They found evidence that firms engaging in management buyouts manage their earnings downwards captured by marginally significantly more negative unexpected accounts receivables than for the matched control firms.

Perry & Williams (1994) studying a sample of 175 firms' management buyouts over the period 1981 – 1988 using the Jones (1991) model also found evidence of income-decreasing earnings management.

While both previous studies study the year immediately prior to the management buyout, Wright & Guan (2004) study three years prior to the management buyout. They hypothesize that management engaging in a management buyout engage in income-increasing earnings management in a self-serving behavior through the leading years to a management buyout that results in decreased future cash flows and decreased stock prices. Using a matching approach and multivariate logit analysis they found evidence in support of their hypothesis.

Ronen & Yaari (2008) suggest alternative factors affecting the scope and direction of earnings management. First, management has an incentive to manage receivables and inventory upward because these items are used as collateral for secured debt financing the buyout (being leveraged). Second, distant shareholders may require opinions of investment bankers. Third, having competition of bids by parties other than management may ensure outside shareholders a fair price.

2.4.5 Benchmark Beating

Whether the benchmark is zero earnings, past earnings, or even analysts' forecasts, management has the incentives to meet or beat them. As Graham et al. (2005) found based on interviews & questionnaires received from CFO's , financial officers view earnings as the most important metric reported to outsiders and that managers are focused on short-term earnings benchmarks. They found that managers want to meet or beat earnings benchmarks to i) build credibility with the capital market, ii) maintain or increase stock price, iii) improve the external reputation of the management team, and iv) convey future growth prospects. Not meeting or beating earnings benchmarks may create uncertainty about a firm's prospects and raises the possibility of hidden deeper problems at the firm.

Burgstahler & Dichev (1997) study the period from 1976 to 1994 and found evidence suggesting that 8% to 12% of the firms with small pre-managed earnings decreases managed earnings upward to report earnings increases. While 30% to 44% of the firms with small pre-managed losses managed earnings upward to report small profits using cash flows from operations and changes in working capital. They try to explain the evidence using two theories of motivation. The first is that managers avoid reporting

earnings decreases and losses to avoid increasing costs imposed on the firm with its stakeholders. The second is based on the prospect theory that decision-makers value models for gains are different than losses.

DeGeorge et al. (1999) study whether executives manage earnings around three thresholds; report positive earnings, sustain recent performance, and meet analysts' expectations. They found evidence of discontinuities in the earnings distribution which suggests threshold-based earnings management. They found evidence that earnings falling just below a threshold will be managed upwards while earnings far from thresholds will be suppressed making future thresholds more achievable. They also found evidence that firms just beating the threshold perform worse than those of control groups.

Xue (2003) examines whether managers signal firms' future performance by managing earnings to exceed thresholds. That is because only firms with sufficient future earnings growth can benefit of exceeding the thresholds as reversals will reduce future earnings. He found evidence that firms facing severe information asymmetry problems are more likely to manage earnings to exceed thresholds and their earnings management practices also contain more information about the firms' future performance. He also found evidence that the capital market recognizes the informational content of earnings management and rationally incorporates it in setting prices rewarding firms that slightly beat the thresholds and punishing firms that slightly miss them.

Bartov et al. (2002) found evidence that firms that manage earnings to meet or beat their earnings expectations, even at the expense of an earlier dampening of those expectations, enjoy a higher return than their peers that fail to do so. They also found that

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the premium to meeting or beating earnings expectations is a leading indicator of future performance and this premium and its predictive ability is marginally affected by whether the meeting or beating earnings expectations is genuine or the result of earnings management.

Kross et al. (2011) provided evidence of firms with a string of meeting or beating analysts' forecasts issue downward biased management earnings forecasts guiding analyst's expectations downward hence making it easier to sustain the string over time. They also found that the longer the string, the more frequent and more pessimistic management earnings forecasts are than firms with no such string.

2.4.6 Equity Offerings

DuCharme et al. (2004) provide evidence that firms manage earnings upward before stock offerings (whether IPOs or SEOs) raising investors' expectations regarding future earnings growth. Then after the stock offering, because of reversals, the increased growth rate will decline causing investors to revise down their expectations pulling prices down. This evidence is consistent with the view that firms aggressively manage earnings to increase the share price before an initial public offering as a way to cash-in. It is also consistent with the view that incumbent owners naturally prefer as high a stock price as possible by seasoned equity offerings. (Ronen & Yaari, 2008)

Marquardt & Wiedman (2004) studying an equity offering sample of 1,765 firms also reports evidence similar to DuCharme et al. (2004). In addition, they document that accounts receivable accounts were used to manage earnings upward by manipulating revenue recognition.

Cohen & Zarowin (2010) document evidence that firms use real, as well as accrual-based, earnings management in the year of a SEO. They also report that the decline in post-SEO operating performance is more attributable to real activities management than to accruals management. Teoh et al. (1998), Rangan (1998), Kinnunen et al. (2000), Shivakumar (2000), and Yoon & Miller (2002) all found evidence of income-increasing earnings management pre-SEO which led to a decline in the post-SEO performance.

Another point of view states that the IPO is just a first step in raising capital externally making it costly to aggressively engage in earnings management before an IPO as the firm will may not be able to meet future expectations (Ronen & Yaari, 2008). This is documented by Roosenboom et al. (2003) where they did not find evidence of earnings management before an IPO.

Brau & Johnson (2009) document, after studying 3,900 IPOs, a significant negative and robust correlation between IPO firm earnings management and the presence of prestigious third-party certifiers driven by attempts to signal firm's quality. Similarly, Hochberg (2008) & Morsfield & Tan (2006) found that firms backed by venture capitalists engage in less earnings management than other IPO firms.

2.4.7 Mergers and Stock-for-Stock Acquisitions

In Mergers & Acquisitions (M&A), the stock of the acquiring firm is the exchange currency by which these transactions are carried out. Therefore it is obvious that the acquiring firm has the incentive to manage earnings upward to overstate their share prices and hence exchange a lower number of their shares. In addition, this strategy is also

preferred by the acquiring firm's shareholders to minimize the dilution of their ownership. (Ronen & Yaari, 2008)

Erickson & Wang (1999) studied a sample of 55 firms involved in a negotiated stock for stock merger during the period 1985-1990. They found evidence that acquiring firms manage earnings upward in the quarters prior to the merger. They also found evidence of a positive relationship between the acquiring firms's accounting manipulation and the size of the deal as well as management's ownership.

Louis (2004) study the period 1992-2000 of a sample consisting of 236 pure stock swaps and a control sample of 137 pure cash purchases in an effort to explain the post-merger underperformance anomaly. He found strong evidence, consistent with Erickson & Wang (1999) findings, suggesting that acquiring firms report significant positive abnormal accruals in the quarter preceding stock swap announcements. He also found evidence suggesting that post-merger underperformance is partly attributable to the reversal of the price effects of earnings management.

On the other side of the transaction, target firms may have the incentive to engage in income-increasing earnings management to increase the transaction price. Erickson & Wang (1999) found insignificant positive unexpected accruals during pre-merger periods. They explain these weak results by the insufficient time the target firm has to manipulate earnings before the merger since it is usually announced and agreed upon in less than one quarter.

Guan et al. (2004) study a sample of 106 hostile takeover targets and a control sample of matched non-hostile targets. They found that target firms discretionary accruals

are positive and significantly larger than those of the control sample firms meaning they engage in income-increasing earnings management during the year prior to the time when the hostile takeover was initiated.

Ben-Amar & Missonier-Piera (2008) study the period 1990-2002 of a sample of 50 Swiss firms targeted by a friendly takeover. They document evidence opposite of the documented by Guan et al. (2004) that managers of friendly takeover targets manage earnings downward in the year preceding the transaction. They suggest that this difference is due to different motivations by managers of friendly takeovers against hostile ones.

2.4.8 Political Costs

Jones (1991) investigates whether firms during import relief investigations manipulate earnings in order to obtain or increase the amount of relief granted to them. She found evidence that managers indeed engage in income-decreasing accruals during import relief investigations to appear in need of protection from competing imports.

Hall (1993) states the fact that in periods of high gasoline prices, the public exert pressure on the political process to increase taxes, regulation, and other costs on the oil refining industry. He hypothesized that the industry will engage in income-decreasing earnings management to decrease these costs in periods of high gasoline prices and oil firm earnings and vice versa. By studying a sample of ten largest U.S. firms in the oil refining industry over the period 1979-1988, he found evidence in support of his hypothesis. Byard et al. (2007) also investigates the period immediately after the impact of hurricanes Katrina & Rita causing a large price increase of crude oil & gasoline. He found evidence similar to

Hall (1993) that large petroleum firms recorded significant abnormal income-decreasing accruals in the fiscal quarter immediately after the impact.

Key (1997) studied the cable television industry and found evidence that firms had greater income-decreasing accruals in the period of Congressional hearings on to whether to reregulate the industry.

D'Souza et al. (2001) study managers' discretionary choices when adopting the Statement of Financial Accounting Standard No. 106 (SFAS 106) to influence future labor negotiations. They hypothesize that the immediate recognition method is likely to enhance the bargaining power of management in subsequent labor negotiations to reduce plan benefits. They found that unionized firms are most likely to be immediate recognizers. They also found that firms that reduce postretirement plan benefits subsequent to adopting SFAS 106 are more likely to use the immediate recognition approach.

Patten & Trompeter (2003) study a sample of 40 chemical firms following the December, 1984 Union Carbide chemical leak in Bhopal, India after which there was an increased regulatory threat. They found evidence that the sample of firms took significant negative discretionary accruals in 1984 engaging in income-decreasing earnings management in response to the increased regulatory threat.

2.4.9 Debt Covenant Violations

Firms that need to raise funds through private or public debt might have to agree to contractual terms and covenants that limit the firm's freedom to take certain investment and financing actions and assure creditors' security of their interests and seniority of their claim. These covenants can require firms to maintain predetermined ratios based on

accounting numbers (Affirmative covenants) or prohibit certain future investment or financing decisions (Negative covenants). (Ronen & Yaari, 2008)

DeFond & Jiambalvo (1994) studied a sample of 94 firms that reported debt covenant violations in their annual reports using time-series and cross-sectional models. They found evidence, indicated by both models, that violation firms have abnormal total and working capital accruals that are significantly positive in the year prior to the violation. In the year of the violation, they found evidence of significant positive abnormal working capital accruals after controlling for going concern qualifications and management changes.

Sweeney (1994) studied a sample of 130 firms violating accounting-based covenants within the period 1980-1989 and also found evidence similar to that in DeFond & Jiambalvo (1994) that default managers make a greater number of income increasing accounting changes than managers in a control group and greater number of income increasing accounting changes in the default year than in the surrounding years.

Dichev & Skinner (2002) studied the distribution of differences between firms' reported accounting measures and the relevant covenant thresholds and found an unusually small number of firms with financial measures just below covenant thresholds and an unusually large number of firms that just meet or beat covenant threshold which is evidence that managers take actions to avoid debt covenant violations. This effect was especially pronounced before an initial covenant violation suggesting that initial violations are substantially more costly. They also found that debt covenant violations are common and for most firms these violations were not associated with financial stress. This suggests that

covenants are set tightly to perform as a screening device and for healthy firms these violations are waived.

Beatty & Weber (2000) study the decision to include performance pricing in lending contracts. Performance pricing provisions adapt the terms of the loan to anticipated changes in the creditworthiness of the borrower. They found that the higher the expected moral hazard costs, the higher the renegotiation costs, the higher the adverse selection problem, and the greater the risk, the more likely that loans incorporate this feature.

HassabElnabby et al. (2005) found evidence indicating that managers' decisions to use discretionary accruals reduce decisions to use changes in accounting methods in periods preceding and coinciding with technical default. They also found evidence suggesting that managers' expectations of technical default costs are positively associated with decisions to use income-increasing accounting choice prior to and after technical default. They also found that when costs of technical default are low, managers' are less likely to manage earnings because there is a probability of a waiver.

3. Loan Loss Accounting

This section consists of:

3.1 Loan Loss Accounting: An Overview

3.2 Loan Loss Accounting According to International Standards

3.3 Loan Loss Accounting According to PMA's Instructions

3.1 Loan loss accounting: An overview

Banks, as part of their operational activities, grant their clients the ability to borrow amounts of money in return for a stated interest called loans. A loan is defined, according to the FASB, as a "contractual right to receive money on demand or on fixed determinable dates that is recognized as an asset in the creditor's statement of financial position." The IASC on the other hand defines loans as "non-derivative financial assets with fixed or determinable payments that are not quoted in an active market other than: those that the entity intends to sell immediately or in the near term, those that the entity upon initial recognition designates as available for sale, or those for which the holder may not recover substantially all of its initial investment, other than because of credit deterioration, which shall be classified as available for sale."

Before clients are granted loans, the bank does an intensive analysis of the clients' financial background and their creditworthiness to be assured that clients will be able to repay the principal of the loan as well as its related interest. Although this process is important, it does not prevent from some default by clients due to changes in the economic conditions or other personal reasons. When a bank recognizes an event or group of events that suggest default by a client and can reasonably estimate the amount of the loss, then the bank should reduce the amount of the asset recognized on its balance sheet (carrying amount). The reduction of the carrying amount is called impairment.

If a bank deems a loan as impaired, then the bank should recognize the loss in revenue, by recognizing or debiting an expense (i.e. bad debt expense), as well as the reduction of the amount of the loan to the expected amount to be received, by recognizing

or crediting an allowance (i.e. allowance for doubtful loans). This allowance account is a contra asset account which reduces the loans account and is disclosed in the assets side of the balance sheet as a negative amount.

3.2 Loan loss accounting according to international standards

According to the instructions and regulations of the Palestinian Monetary Authority, specifically Instruction no. 4 – 2008, banks should prepare their financial statements according to International Accounting Standards and International Financial Reporting Standards. Therefore, their loan loss accounting should be in accordance to International Accounting Standard no. 39 (IAS 39), *Financial Instruments: Recognition and Measurement*, and International Accounting Standard no. 30 (IAS 30), *Disclosures in the Financial Statements of Banks and Similar Financial Institutions,* replaced by International Financial Reporting Standard no. 7 (IFRS 7), *Financial Instruments: Disclosures*.

IAS 39 requires entities at the end of each accounting period to assess whether there is any objective evidence that a financial asset or group of financial assets is impaired. The objective evidence should be a result of one or more events that occurred after the initial recognition of the asset (loss events). Whereas losses expected as a result of future events should not be recognized. This objective evidence includes observable data about the following loss events:

a) Significant financial difficulty of the obligor;

b) a breach of contract, such as a default or delinquency in interest or principal payments;

c) Debt restructuring giving the borrower privileges because of financial difficulties;

d) Probable bankruptcy or other financial reorganization of the borrower;

e) Observable data suggesting that there will be a decrease in the estimated future cash inflows from a group of financial assets since the initial recognition of those assets, as an adverse changes in the payment status of borrowers in the group or national or local economic conditions that correlate with defaults on the assets in the group.

When objective evidence of loss events is established, the entity should incur impairment losses if the loss event or events has an impact on the estimated future cash flows of the financial asset or assets and can be reliably estimated.

According to IAS 39, the amount of impairment losses for loans and receivables is measured as the difference between the carrying amount and the present value of estimated future cash flows discounted at the financial asset's original effective interest rate, which is the same rate used to calculate the amortized cost. Then the carrying amount could be reduced either directly or through the use of an allowance account. The impairment losses are to be recognized in the profit or loss.

The entity has to evaluate individually significant financial assets but has the choice whether to evaluate insignificant financial assets individually or collectively. Any individually evaluated financial asset, significant or not, that has no objective evidence of impairment, should be included in a group of financial assets with similar credit risk characteristics for collective evaluation.

If an event or group of events occurred objectively causing the decrease of the amount of the impairment loss of a financial asset after the impairment was recognized, the previously recognized impairment loss should be reversed either directly or through the use

of an allowance account. The reversed amount of the impairment loss should be recognized in profit or loss. The reversal should not result in a financial asset exceeding what the amortized cost would have been had the impairment not been recognized at the date the impairment is reversed.

After a financial asset has been impaired, interest income is then recognized using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss which is the financial asset's original effective interest rate and the same rate used to calculate the amortized cost.

Addressing the disclosure of loan loss provisions, IAS 30 states that the bank should disclose the following:

a) The accounting policy detailing the basis on which uncollectable loans and advances are recognized as an expense and written off;

b) Details of the changes in the provision for losses on loans and advances during the period. Disclosing separately the amount of losses recognized as an expense on uncollectable loans and advances in the period, the amount charged in the period for loans and advances written off and the amount credited in the period for loans and advances previously written off that have been recovered;

c) The aggregate amount of the provision for losses on loans and advances at the balance sheet date; and

d) The aggregate amount of loans and advances on which interest is not being accrued that is included in the balance sheet and the basis used to determine the carrying amount of such loans and advances.

Details of the changes in the provision for losses on loans and advances as well as the aggregate amount of the provision for losses on loans and advances help users of bank financial reports judge the effectiveness by which management had employed the bank's resources by assessing the impact of such losses on the bank's financial position.

It also states that any amounts recognized as losses on loans and advances in addition to those losses that have been specifically identified or potential losses which experience indicates are present in the portfolio of loans and advances, like some sort of local circumstances, regulation, or legislation, should be accounted for as appropriations of retained earnings. Also, any credits resulting from the reduction of such amounts should be credited to retained earnings and should not be considered in the determination of net profit or loss for the period.

IAS 30 was superseded by IFRS 7 when it became effective at January 1, 2007. The IFRS 7 is more generic as it applies to all risks arising from all financial instruments rather than dealing with risks specifically arising from banks' financial instruments.

The IFRS 7 requires an entity to disclose a reconciliation of changes in the separate account used to record the impairments of financial assets by credit losses (e.g. an allowance account used to record individual impairments or a similar account used to record a collective impairment of assets). This requirement is not applicable to the method of direct reduction of the carrying amount of the asset. It also requires the disclosure of the amount of any impairment losses for each class of financial assets in the income statement or in the notes.

The standard also requires an entity to disclose qualitative and quantitative information on risks that arise from financial instruments, such as credit risk, to help users of financial statements assess the credit quality of the entity's financial assets and level and sources of impairment losses. According to the standard, the entity should disclose by class of the financial instrument the following:

a) The amount that best represents its maximum exposure to credit risk at the end of the reporting period neglecting any collateral held or other credit enhancements.

b) A description of collateral held as security and other credit enhancements.

c) Information about the credit quality of financial assets that are neither past due nor impaired.

d) The carrying amount of financial assets that would otherwise be past due or impaired whose terms have been renegotiated.

e) an analysis of the age of financial assets that are past due as at the end of the reporting period but not impaired

f) an analysis of financial assets that are individually determined to be impaired as at the end of the reporting period, including the factors the entity considered in determining that they are impaired

g) a description of collateral held by the entity as security and other credit enhancements and, unless impracticable, an estimate of their fair value

As we can see and understand by the previous international accounting and financial reporting standards, IAS 30, 39, and IFRS 7, regarding the accounting and disclosure of loan losses and allowances, the standards give management the ability to use its judgment in calculating the amount of loan losses in the process of impairing loans

which can be a window of opportunity to manage earnings. However, the Palestinian Monetary Authority details a set of rules that guides the process of calculating the amount of loan losses.

3.3 Loan loss accounting according to PMA's instructions

The PMA, through instruction no (1/2008), defines a specific provision as an amount set aside to meet specific losses, which should be recognized in the profit or loss, for each loan individually in a bank's loan portfolio after subtracting the accepted collateral. According to the same instruction also, loans are classified according to their defaults in an attempt to set the specific amounts of losses to be recognized by the bank's management for each category of loans. It classifies loans into three categories; regular loans, loans under observation, and irregular loans.

Regular loans are loans that its payments of principal, interest, or commissions are paid according to the agreed upon conditions without any negative events that may jeopardize the client's status and ability to pay. Apparently, this category of loans should not be impaired by losses.

Loans under observation are loans that its payments of principal, interest, or commissions were not paid for a period of 30 to 90 days. The PMA does not require the recognition of loan losses to impair these types of loans. However, in certain scenarios where the financial condition of a client indicates to his financial disability, then the bank can create "specific" provisions. The PMA does not indicate the amount of losses to be recognized if the latter conditions were met. During this period from 30 to 90 days, the bank can accrue interest and commissions on the loan and recognize it in the profit or loss

unless the default exceeds 90 days. Then the recognized interest and commissions for that period should be reversed and accounted for in a suspended interest and commissions accounts.

Irregular loans are loans that were not paid according to the agreed upon conditions as a result of the client's financial difficulties which affected his ability to pay the loan's principal, interest, or commissions. This category includes loans by which their principal, interest, or commissions were not paid for over than 90 days. It also includes loans of clients who declared their bankruptcy or who have a court order against them. For this category, all unpaid and paid in advance interest and commissions should be accounted for in a suspended account until the whole amount of the loan's principal is paid. In the case of rescheduling, the suspended account of interest and commissions is to be added to the amount of the loan and not recognized in the income statement. Irregular loans are further categorized into untypical loans, doubtful loans, and loans classified as losses.

Untypical loans are loans that its payments of principal, interest, or commissions were not paid for a period of 91 to 180 days which requires the recognition of impairment losses by 20% of the total amount of the loan. Doubtful loans are loans that its payments of principal, interest, or commissions were not paid for a period of 181 to 360 days which requires the creation of a specific allowance by 50% of the total amount of the loan. Loans classified as losses are loans that its payments of principal, interest, or commissions were not paid for more than 360 days which requires the recognition of 100% of the total amount of the loan as impairment losses.

Instruction no. 1/2008 was issued in January 20, 2008 to amend a previous instruction no. 93-4d/7/2001 issued in July 22, 2001. The amendments did not change any of the details in the calculation of specific provisions for loans impairment but was limited to the names of the different categories loans are classified into. As this instruction, instruction 1/2008, did not address the calculation of the general provision, then what is mentioned in instruction no. 93-d4/7/2001 still stands.

The instruction defines a general provision as an amount set aside to meet unspecific losses in the bank's direct and indirect loan portfolio granted to its clients, whether individuals or institutions. As detailed in the instruction, general provisions should not be less than 1.5 percent of direct regular and under observation loans as well as not less than 0.5 percent of regular indirect loans. All general provisions should be calculated based on direct and indirect loans after the deduction of cash collateral, unconditional governmental collateral, and acceptable banks collateral.

4. Statistical and Empirical Analysis

This section consists of:

4.1 Data & Sample Selection

4.2 Research Design

4.3 Results & Interpretations

    4.3.1 Descriptive Statistics

    4.3.2 Correlations

    4.3.3 Regression Model

4.1 Data & Sample Selection

In order to carry out the objectives of this study, secondary data was collected from the financial statements (Balance Sheet, Income Statement, Statement of change in Stockholder's Equity, and Statement of Cash flows) of local Palestinian banks registered at the Palestinian Monetary Authority for the period 2006 - 2010. In this period, there were 18 banks registered, 10 foreign and 8 local. The financial statements were procured from banks' websites. A summary of local banks are presented in Table 4.1.

Table 4.1: Summary of local banks. (Sorted by No. of branches)

#	Bank	Type	Founded	No. of branches
1	Bank of Palestine	Conventional	1960	45
2	Palestine Islamic Bank	Islamic	1995	16
3	Al Quds Bank	Conventional	1995	13
4	Palestine Investment Bank	Conventional	1994	13
5	Arab Islamic Bank	Islamic	1995	9
6	Al Rafah Microfinance Bank	Conventional	2005	6
7	Palestine Commercial Bank	Conventional	1992	6
8	Arab Palestinian Investment Bank	Conventional	1997	1

Procuring data from banks' websites presented a problem of data availability, where only data for the period of 2006 – 2010 was present for all banks. The Arab Palestinian Investment Bank's website was under construction, so no data was procured for this bank. That makes the sample consist of 7 banks over the period of 5 years with only 35 observations or bank years.

Tables 4.2 till 4.6 will provide selected data of sample banks for the years 2006 till 2010 while Table 4.7 will summarize the selected data for the period.

Table 4.2: Selected data for the bank sample for the year 2010

Bank	Total Assets	Net Loans	Customer Deposits	Total Equity	Net Income	Legal Reserve Compliance
Bank of Palestine	1,545,038,022	545,026,391	1,251,482,935	163,884,250	30,119,469	0.16407381
Palestine Islamic Bank	357,481,026	171,061,933	81,117,664	48,046,357	1,594,453	0.011515424
Al-Quds Bank	426,533,834	198,950,665	287,215,750	50,433,196	3,673,718	0.029979
Palestine Investment Bank	265,367,906	95,463,305	136,018,695	62,580,849	1,569,530	0.13215002
Arabic Islamic Bank	285,727,916	77,987,350	82,271,674	48,036,063	-1,944,325	0.051495003
Al-Rafah Bank	158,139,737	42,997,898	66,994,629	28,732,777	-28,999	0.011683329
Palestine Commercial Bank	171,495,617	49,491,743	103,355,452	27,877,328	1,794,022	0.033436193
	3,209,784,058	**1,180,979,285**	**2,008,456,799**	**429,590,820**	**36,777,868**	**0.062048**

Table 4.3: Selected data for the bank sample for the year 2009

Bank	Total Assets	Net Loans	Customer Deposits	Total Equity	Net Income	Legal Reserve Compliance
Bank of Palestine	1,283,017,502	343,311,230	1,016,683,776	150,822,464	26,929,168	0.13531211
Palestine Islamic Bank	299,134,104	88,889,518	64,634,040	36,371,337	370,738	0.010308926
Al-Quds Bank	330,132,209	121,188,598	201,805,306	46,759,478	2,804,051	0.01727068
Palestine Investment Bank	245,620,515	81,098,530	112,899,089	61,081,333	2,928,340	0.1612637
Arabic Islamic Bank	293,661,399	92,173,018	85,240,071	49,980,388	2,212,062	0.051495003
Al-Rafah Bank	162,661,833	45,849,576	64,126,205	28,761,776	2,269,267	0.010947781
Palestine Commercial Bank	132,031,209	31,987,045	82,700,002	27,130,576	2,502,287	0.026254697
	2,746,258,771	**804,497,515**	**1,628,088,489**	**400,907,352**	**40,015,913**	**0.058979**

Table 4.4: Selected data for the bank sample for the year 2008

Bank	Total Assets	Net Loans	Customer Deposits	Total Equity	Net Income	Legal Reserve Compliance
Bank of Palestine	1,046,832,914	285,337,011	840,497,297	123,169,873	23,610,956	0.123978846
Palestine Islamic Bank	301,749,490	87,801,804	67,746,116	21,613,890	-2,507,887	0.015469711
Al-Quds Bank	259,549,161	128,520,482	145,703,493	43,955,427	-5,971,848	0.00870686
Palestine Investment Bank	214,612,000	51,426,546	104,713,597	61,638,163	2,983,979	0.149303775
Arab Islamic Bank	304,498,068	112,176,249	78,599,498	47,768,326	5,094,275	0.047747501
Al-Rafah Bank	99,938,744	40,037,248	31,765,446	26,490,267	-3,250,468	0.003301843
Palestine Commercial Bank	105,342,175	14,941,205	69,628,808	24,628,289	142,566	0.017918704
	2,332,522,552	**720,240,545**	**1,338,654,255**	**349,264,235**	**20,101,573**	**0.052347**

Table 4.5: Selected data for the bank sample for the year 2007

Bank	Total Assets	Net Loans	Customer Deposits	Total Equity	Net Income	Legal Reserve Compliance
Bank of Palestine	847,650,800	243,587,513	679,633,662	90,218,428	20,579,398	0.129344655
Palestine Islamic Bank	232,823,986	91,073,614	67,259,123	23,944,217	2,388,758	0.015469711
Al-Quds Bank	251,451,548	43,214,806	99,877,233	48,349,483	972,764	0.00870686
Palestine Investment Bank	251,482,925	75,289,682	91,844,997	61,297,183	4,179,997	0.138991475
Arab Islamic Bank	301,647,607	95,240,362	54,052,341	40,516,511	5,298,511	0.042901779
Al-Rafah Bank	91,840,738	23,265,807	16,904,052	28,845,942	762,131	0.003304709
Palestine Commercial Bank	88,743,528	21,351,038	64,032,430	14,771,397	57,594	0.0258162
	2,065,641,132	**593,022,822**	**1,073,603,838**	**307,943,161**	**34,239,153**	**0.052076**

Table 4.6: Selected data for the bank sample for the year 2006

Bank	Total Assets	Net Loans	Customer Deposits	Total Equity	Net Income	Legal Reserve Compliance
Bank of Palestine	602,555,348	260,492,883	480,821,032	56,252,148	13,903,924	0.15599108
Palestine Islamic Bank	172,828,409	79,413,503	47,648,372	19,903,589	-1,147,991	0.00340115
Al-Quds Bank	148,190,194	34,224,341	59,358,587	47,632,998	-1,728,912	0.00674776
Palestine Investment Bank	208,178,070	79,141,557	72,998,743	57,764,769	3,720,558	0.126492775
Arab Islamic Bank	219,192,649	53,469,784	38,415,552	34,011,639	3,922,067	0.031938783
Al-Rafah Bank	42,706,513	5,182,379	10,892,570	26,791,419	-142,961	0
Palestine Commercial Bank	79,849,447	25,773,648	50,846,120	14,713,803	-310,702	0.02552825
	1,473,500,630	**537,698,095**	**760,980,976**	**257,070,365**	**18,215,983**	**0.050014**

Table 4.7: Summary of selected data for the bank sample for the period 2006 – 2010

Year	Total Assets	Net Loans	Customer Deposits	Total Equity	Net Income	Average Legal Reserve Compliance
2010	**3,209,784,058**	**1,180,979,285**	**2,008,456,799**	**429,590,820**	**36,777,868**	**0.062048**
2009	**2,746,258,771**	**804,497,515**	**1,628,088,489**	**400,907,352**	**40,015,913**	**0.058978985**
2008	**2,332,522,552**	**720,240,545**	**1,338,654,255**	**349,264,235**	**20,101,573**	**0.052346749**
2007	**2,065,641,132**	**593,022,822**	**1,073,603,838**	**307,943,161**	**34,239,153**	**0.052076484**
2006	**1,473,500,630**	**537,698,095**	**760,980,976**	**257,070,365**	**18,215,983**	**0.050014257**

4.2 Research Design

To test the study's hypotheses of factors that affect loss provisioning practices of Palestinian local banks, the income smoothing, the debt to equity, and the legal reserve hypotheses, a single stage multiple regression model formulated by Zoubi & Al-Khazali (2007) was used after modification. The model is as follows:

$$LLP = CROA + LD + DE + RD + LOGTA + CAR + TYPE$$

where;

LLP is the loss provision to total loans & investments,

CROA (+) is the earnings before taxes and loss provision divided by total assets (ROA), minus return on assets for the last year (ROA t-1). This variable is included to test the income smoothing hypothesis and is predicted to have a positive relationship with LLP. As the ROA before taxes and loss provision for the current year is lower than the ROA for the last year, bank managers will have the incentive to reduce loan loss provisions to boost their earnings and smooth their income, and vice versa.

LD (-) is the gross loans and investments to customer deposits ratio. This variable measures the relationship between loans and investments to customers' deposits. The higher the ratio, the more the need for external funds. Therefore bank managers have the incentive to decrease loan loss provisions to reduce the perceived risk to attract external funds. A negative relationship between LLP & LD is expected.

DE (-) is the total debt to common equity ratio. This variable is used to test the DE hypothesis and is predicted to have a negative relationship with LLP. The higher the ratio,

the higher the perceived risk of the bank. Therefore bank managers will have the incentive to decrease loss provisions to increase common equity, lowering the ratio and thus the perceived risk.

RD (-) is the current bank's legal reserve minus the required bank's legal reserve divided by equity. This variable is used to test the legal reserve hypothesis. As the gap between the bank's current and required legal reserve increases, bank managers will have the incentive to decrease loan loss provisions increasing the amount transferred into the reserve. A negative relationship between LLP & RD is expected.

LOGTA (+) is the natural logarithm of total assets. Larger banks are expected to afford larger loss provisions than smaller banks. A positive relationship is expected between LLP & LOGTA.

CAR (-) is the capital adequacy ratio of the bank minus the minimum required capital adequacy ratio required by the PMA of 12%. As the gap decreases, bank managers will have the incentive to decrease loss provision to increase the capital base increasing the capital adequacy ratio. A negative relationship is expected between LLP & CAR. The capital adequacy ratio is computed by dividing the capital base by risk-weighted assets.

TYPE is a dummy variable of the type of the bank whether Islamic or Conventional. It takes the value of 0 if the bank is conventional and 1 if the bank is Islamic. It is included to test if there is any difference in loss provisioning practices between Islamic and Conventional banks. No relationship is expected between LLP & TYPE.

4.3 Results & Interpretations

4.3.1 Descriptive Statistics

Table 4.8: Descriptive Statistics for all variables included in the regression.

Variable	N	Minimum	Maximum	Mean	Std. Deviation
LLP	35	.0000	.2774	.048042	.0710640
ROA	35	-.1490	.0506	.006982	.0409751
CROA	35	-.1484	.1099	-.004717	.0371439
LD	35	.2779	2.4362	.943553	.5267010
DE	35	.5940	9.7117	4.165468	2.1884715
RD	35	-1.3246	-.5101	-.887462	.2357325
LOGTA	35	7.6305	9.1889	8.388453	.3371248
CAR	34	.0006	1.2515	.194568	.2213088
TYPE	35	.0000	1.0000	.285714	.4583492

According to the descriptive statistics of all the variables included in the regression represented by Table 4.8, the average LLP for the sample banks is relatively low of 4.80 percent for the period 2006 – 2010. This implies that Palestinian banks make a very low estimate of loss provision which can be explained by the detailed rules used to set aside the provisions and the rigorous procedures banks implement to approve loans. By further examining the LLP, it is found that the maximum loss provision estimated by Palestinian banks to be 27.74 percent of total outstanding loans and investments. These results are close to the results presented by Zoubi & Al-Khazali (2007) for the GCC region, with an average LLP of 1.31 percent and a maximum of 25.68 percent.

The return on assets before taxes and loss provision, ROA, for the sample banks had a low average of 0.698 percent, which means that each dollar invested in assets generate only 0.00698 dollar in earnings before taxes and loss provision. The maximum ROA before taxes and loss provision is 5.06 percent and the minimum is -14.9 percent. Several factors may have contributed in these low numbers; a blockade was exercised by the Israeli forces on Gaza Strip from 2006 till present which had a devastating toll on Palestinian economy, the financial crisis in 2008 which had ripples on economies all over the world, and a war was launched by Israeli forces in 2008 on Gaza Strip which had negative repercussions on the economy and infrastructure. The CROA, which is the difference between the current ROA and the last year's ROA, had an average of -0.47 percent. This implies, for the period of 2006 – 2010, that there were more declines in ROA than inclines. The largest increase and decrease of ROA in two consecutive years was 10.99 percent and 14.84 percent respectively.

The average total loans to total customer's deposits, LD, were 94.36 percent which implies that almost all loans are financed by customer's deposits. The maximum and minimum ratios were 243.62 percent and 27.79 percent respectively. The average debt to equity ratio is 416.55 percent which means that total debt is 4.17 times total equity. This is a relatively high ratio which implies that banks are more financed by debt than equity, hence banks are perceived to be more risky. The maximum debt to equity ratio was 971.17 percent and the minimum ratio was 59.40 percent.

The minimum, maximum, and average RD ratio, which is the difference between the current legal reserve and the required legal reserve divided by equity, are all negative. This implies that all banks in the sample had legal reserves below required. The average,

minimum, and maximum RD ratios for the sample banks are -88.75 percent, -132.46 percent, and -51.01 percent respectively. The CAR, bank's current capital adequacy ratio minus minimum required capital adequacy ratio, minimum, maximum, and average values are all positive indicating that all banks in the sample had capital adequacy ratios above 12 percent. The least difference was 0.0006 percent and the largest difference was 1.25 percent. The average difference was 0.196 percent.

4.3.2 Correlations

According to the correlation matrix, as presented by Table 4.9, two independent variables have significant correlations with the dependent variable. The independent variable RD has a moderate negative correlation with the dependent variable LLP implied by the correlation coefficient of -0.558. This correlation is significant at the 0.01 level. The other independent variable LOGTA has a weak negative correlation with the dependent variable LLP implied by the correlation coefficient of -0.356 which is significant at the 0.05 level.

On the other hand, there are seven significant correlations between the independent variables. The independent variable LD has a weak negative correlation with the independent variable DE implied by the correlation coefficient of -0.456 which is significant at the 0.01 level. Another independent variable correlated to the independent variable LD is TYPE. The correlation is moderate positive implied by the correlation coefficient of 0.775 which is significant at the 0.01 level.

Table 4.9: Pearson correlation coefficients of all variables included in the model.

		LLP	CROA	LD	DE	RD	LOGTA	CAR	TYPE
LLP	Pearson Correlation	1	.060	-.216	.009	-.558**	-.356*	-.024	-.263
	Sig. (2-tailed)		.730	.213	.959	.001	.036	.892	.126
CROA	Pearson Correlation	.060	1	-.235	.063	-.206	-.058	.043	-.021
	Sig. (2-tailed)	.730		.174	.720	.235	.740	.811	.906
LD	Pearson Correlation	-.216	-.235	1	-.456**	-.135	-.123	-.133	.775**
	Sig. (2-tailed)	.213	.174		.006	.439	.482	.453	.000
DE	Pearson Correlation	.009	.063	-.456**	1	.297	.682**	-.500**	-.385*
	Sig. (2-tailed)	.959	.720	.006		.083	.000	.003	.022
RD	Pearson Correlation	-.558**	-.206	-.135	.297	1	.719**	-.196	.003
	Sig. (2-tailed)	.001	.235	.439	.083		.000	.267	.985
LOGTA	Pearson Correlation	-.356*	-.058	-.123	.682**	.719**	1	-.570**	.087
	Sig. (2-tailed)	.036	.740	.482	.000	.000		.000	.620
CAR	Pearson Correlation	-.024	.043	-.133	-.500**	-.196	-.570**	1	-.289
	Sig. (2-tailed)	.892	.811	.453	.003	.267	.000		.097
TYPE	Pearson Correlation	-.263	-.021	.775**	-.385*	.003	.087	-.289	1
	Sig. (2-tailed)	.126	.906	.000	.022	.985	.620	.097	

**. Correlation is significant at the 0.01 level (2-tailed).

*. Correlation is significant at the 0.05 level (2-tailed).

The independent variable DE is significantly correlated to three other independent variables. It has a moderate positive correlation with the independent variable LOGTA implied by the correlation coefficient of 0.682 which is significant at the 0.01 level. It also has a moderate negative correlation with the independent variable CAR implied by the correlation coefficient of -0.50 which is significant at the 0.01 level. The third significant correlation is with the independent variable TYPE. It is a weak negative correlation implied by the correlation coefficient of -0.385 which is significant at the 0.05 level.

The independent variable RD is significantly correlated with only one independent variable by a moderate positive correlation implied by the correlation coefficient of 0.719. This correlation is significant at the 0.01 level. Another significant correlation is between the independent variables CAR and LOGTA. This is a moderate negative correlation implied by the correlation coefficient of -0.570 which is significant at the 0.01 level. Table 4.10 presents a summary of all significant correlations between the variables included in the regression model.

Significant correlations between independent variables can mean that there may be a multicollinearity problem if these correlations are strong (above 0.8). Multicollinearity is a term used when there are strong correlations between multiple independent variables which misleadingly inflate standard errors and hence might make some variables statistically insignificant while they should be otherwise significant. The results show that there aren't any strong significant correlations between the independent variables which suggest that there may be no multicollinearity problem. But, as the results show, there are several moderate significant correlations hence, as anticipation, a test for multicollinearity shall be conducted.

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Table 4.10: Summary of significant correlations.

Variables	Correlation coefficient	Significance	Significant at this level
LLP – RD	-0.558	.001	0.01
LLP – LOGTA	-0.356	.036	0.05
LD – DE	-0.456	.006	0.01
LD – TYPE	0.775	.000	0.01
DE – LOGTA	0.682	.000	0.01
DE – CAR	-0.500	.003	0.01
DE – TYPE	-0.385	.022	0.05
RD – LOGTA	0.719	.000	0.01
LOGTA – CAR	-0.570	.000	0.01

4.3.3 Regression model

Carrying out the regression model to examine the effect of banks' specific variables on loss provision for the period 2006 – 2010, resulted the following.

Table 4.11: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.686[a]	.470	.328	.0588685

a. Predictors: (Constant), TYPE, RD, CROA, CAR, DE, LD, LOGTA

Table 4.12: Anova[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.080	7	.011	3.299	.012[a]
	Residual	.090	26	.003		
	Total	.170	33			

a. Predictors: (Constant), TYPE, RD, CROA, CAR, DE, LD, LOGTA

b. Dependent Variable: LLP

According to the results presented by Table 4.11, it is concluded that the variations of the seven independent variables, CROA, DE, LD, RD, CAR, LOGTA, and TYPE, can explain from 47 percent to 32.8 percent of the variation of the dependent variable LLP. This is measured by the range between the coefficient of determination R Square (R^2) and the adjusted coefficient of determination. The overall model is significant at the 0.05 level as presented by Table 4.12 where the model level of significance is 0.012 which is less than 0.05.

By further examining the model and analyzing the coefficients of the independent variables, as presented by Table 4.13, It is observed that only the independent variable RD is significant in explaining the variation of the dependent variable, the loss provision LLP, in Palestinian banks. This is implied by the significance level of the independent variable RD of 0.014 which is less than 0.05. While as all the other independent variables, CROA, LD, DE, CAR, LOGTA, and TYPE, have significance levels above 0.05 represented by 0.354, 0.178, 0.550, 0.150, 0.909, and 0.652.

$$LLP = \begin{array}{c} -0.109 \\ 0.877 \end{array} \begin{array}{c} -0.301\,CROA \\ 0.354 \end{array} \begin{array}{c} -0.057\,LD \\ 0.178 \end{array} \begin{array}{c} -0.006\,DE \\ 0.550 \end{array} \begin{array}{c} -0.205\,RD \\ 0.014\,* \end{array} \begin{array}{c} +0.009\,LOGTA \\ 0.909 \end{array} \begin{array}{c} -0.1\,CAR \\ 0.150 \end{array} \begin{array}{c} -0.021\,TYPE \\ 0.652 \end{array}$$

Significant at 0.05 level

These results reject the hypothesis that banks smooth their income by manipulating their loan loss provisions as there was no evidence that banks decrease/increase their loss provisions when the return on assets before taxes and loss provisions of the current year is less/greater than the return on assets before taxes and loss provisions of the last year.

These results also reject the hypothesis that banks manipulate their loan loss provisions to affect their debt to equity ratio as there was no evidence to support the notion that banks with high debt to equity ratio tend to decrease their loss provisions increasing the amount of their net income and hence increasing the amount transferred to equity through retained earnings and hence forcing the debt to equity ratio down decreasing the perceived risk of the bank.

The evidence found through these results supports the legal reserve hypothesis. The results support the notion that banks use their loss provisions when their legal reserves are falling short than required. As the shortage increases, banks have the incentive to decrease their loss provisions increasing the amount of their net income increasing the amount transferred in their legal reserves. Therefore, the expected relationship between RD and LLP was negative which is supported by the results by the independent variable RD coefficient of -0.205.

Table 4.13: Coefficients of the independent variables[a].

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	-.109	.696		-.157	.877		
	CROA	-.301	.319	-.158	-.944	.354	.726	1.377
	LD	-.057	.041	-.369	-1.384	.178	.286	3.498
	DE	-.006	.010	-.191	-.605	.550	.204	4.892
	RD	-.205	.078	-.685	-2.633	.014	.301	3.322
	LOGTA	.009	.080	.044	.115	.909	.140	7.131
	CAR	-.100	.068	-.309	-1.482	.150	.467	2.140
	TYPE	-.021	.046	-.131	-.456	.652	.245	4.076

a. Dependent Variable: LLP

The results also accept the suggestion that there is no difference in the loss provisioning practices between conventional and Islamic banks. This is concluded by the insignificant coefficient of the independent variable TYPE.

As presented by Table 4.13, there is one independent variable with VIF value, variance inflation factor, above 5 and tolerance value less than 0.2. Another independent variable VIF value is close to 5 and tolerance value slightly above 0.2. The tolerance is an indication of the percent of variance in the predictor that cannot be accounted for by the other predictors and VIF is 1/tolerance. Also, as presented by Table 4.14, there are dimensions with very low eigenvalues and high condition indices. All these results indicate that there is a multicollinearity problem with the independent variables.

Table 4.14: Collinearity Diagnostics[a]

Model	Dimension	Eigenvalue	Condition Index	Variance Proportions							
				(Constant)	CROA	LD	DE	RD	LOGTA	CAR	TYPE
1	1	5.339	1.000	.00	.00	.00	.00	.00	.00	.00	.00
	2	1.038	2.268	.00	.47	.00	.00	.00	.00	.02	.03
	3	.890	2.450	.00	.24	.00	.00	.00	.00	.05	.10
	4	.580	3.034	.00	.00	.00	.03	.00	.00	.24	.02
	5	.090	7.711	.00	.01	.09	.11	.08	.00	.35	.29
	6	.040	11.551	.00	.25	.87	.02	.14	.00	.01	.36
	7	.023	15.141	.00	.02	.03	.39	.14	.00	.29	.08
	8	.000	221.628	1.00	.00	.00	.45	.64	1.00	.04	.13

a. Dependent Variable: LLP

To overcome the multicollinearity problem, a stepwise method was used to carry out the regression. This method examines the relationship of independent variables with the dependent variable in steps. It examines each independent variable by its own and then adds the other independent variables one at a time. The following resulted from the stepwise regression.

Table 4.15: Model Summary – Stepwise

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.560[a]	.314	.292	.0603956
2	.629[b]	.395	.356	.0576046

a. Predictors: (Constant), RD

b. Predictors: (Constant), RD, LD

Table 4.16: Anova[c] – Stepwise

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.053	1	.053	14.639	.001[a]
	Residual	.117	32	.004		
	Total	.170	33			
2	Regression	.067	2	.034	10.134	.000[b]
	Residual	.103	31	.003		
	Total	.170	33			

a. Predictors: (Constant), RD

b. Predictors: (Constant), RD, LD

c. Dependent Variable: LLP

Table 4.17: Coefficients of independent variables – Stepwise

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	-.100	.040		-2.479	.019
	RD	-.168	.044	-.560	-3.826	.001
2	(Constant)	-.072	.041		-1.757	.089
	RD	-.182	.042	-.605	-4.280	.000
	LD	-.045	.022	-.289	-2.044	.050

a. Dependent Variable: LLP

As presented by table 4.17, the only significant independent variable, when a simple regression was conducted between the dependent variable LLP and each independent variable one at a time, is RD. The variation in the independent variable RD explains 31.4 percent to 29.2 percent of the variation in the dependent variable LLP as presented by table 4.15. This all implies that this independent variable cannot be excluded from the model. The significance level of the independent variable RD is 0.001 which is less than 0.01, as presented by Table 4.17. The coefficient of RD is -0.168 which supports the hypothesis of a negative relationship between it and LLP, the dependent variable.

$$LLP = \begin{matrix} -0.1 \\ 0.019** \end{matrix} \quad \begin{matrix} -0.168\ RD \\ 0.001* \end{matrix}$$

* Significant at 0.01 level. ** Significant at 0.05 level

When a multiple regression was conducted between the dependent variable LLP and the independent variable RD while adding one of the remaining independent variables one at a time, another independent variable appeared to be significant that is LD. The variation

in the independent variables of RD and LD explain 39.5 percent to 35.6 percent of the variation in the dependent variable LLP, as measured by R^2 and adjusted R^2. As presented by table 4.15, the significance level of the independent variable RD is 0.000 which is less than 0.01, while as the significance level of LD is 0.05 which is equal to 0.05. The coefficients of the independent variables RD and LD are -0.182 and -0.045. This supports the legal reserve hypothesis and the expectation that banks manipulate their loss provisions to affect the loans to deposits ratio. When the loans to deposits ratio is high, banks have the incentive to decrease their loss provisions to reduce their perceived risks to attract external funds.

$$LLP = \begin{array}{ccc} -0.072 & -0.182\,RD & -0.045\,LD \\ 0.089 & 0.000\,* & 0.05\,** \end{array}$$

* Significant at 0.01 level. ** Significant at 0.05 level.

As presented by table 4.16, both models, the simple regression between the dependent variable LLP and the independent variable RD and the multiple regression between the dependent variable LLP and the independent variables RD and LD, are overall significant at the 0.01 level. The simple regression has a significance level of 0.001 and the multiple regression has a significance level of 0.000.

Table 4.18 present all excluded independent variables that do not have significant relationship with the dependent variable when a simple or a multiple regression was carried out.

Table 4.18: Excluded variables[c]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics
						Tolerance
1	CROA	-.055[a]	-.365	.718	-.065	.957
	LD	-.289[a]	-2.044	.050	-.345	.976
	DE	.182[a]	1.195	.241	.210	.910
	CAR	-.139[a]	-.932	.359	-.165	.962
	LOGTA	.090[a]	.421	.677	.075	.482
	TYPE	-.246[a]	-1.730	.094	-.297	1.000
2	CROA	-.168[b]	-1.115	.274	-.200	.857
	DE	.062[b]	.375	.711	.068	.732
	CAR	-.194[b]	-1.362	.183	-.241	.934
	LOGTA	.081[b]	.396	.695	.072	.482
	TYPE	-.061[b]	-.273	.787	-.050	.398

a. Predictors in the Model: (Constant), RD

b. Predictors in the Model: (Constant), RD, LD

c. Dependent Variable: LLP

5. Conclusion

This study aims to test whether bank managers, Islamic and conventional, manipulate loan and investment loss provisions to smooth their income or manage their ratios and their regulatory capital. According to the results presented in the previous section, there is an indication that managers decrease their loan and investment provisions when the gap between the required legal reserve and their current legal reserve is high. By this, they free up more earnings to be channeled into the legal reserve decreasing the gap. The results also indicated that as the loans to deposits ratio increases, managers tend to decrease their loan and investment provisions in an attempt to decrease their perceived risk to attract external funds. In addition, the results also indicated that there is no difference between the loan and investment provisioning practices in Islamic and conventional banks.

The results rejected the hypothesis that bank managers manipulate loan and investment provisions to smooth their incomes by decreasing the provision whenever the current return on assets before taxes and provision is less than the prior ROA. The results also rejected the hypothesis that the higher the debt to equity ratio, the higher the level of risk of the bank, the lower the loan and investment provision to be set by banks in order to decrease their level of risk.

These results differ from the results achieved by Zoubi & Al-Khazali (2007) for the GCC region where they found evidence of income smoothing but failed to find evidence of enhancing their debt to equity ratios or decreasing the gap between their current and required legal reserve through LLPs.

These results also differ from the results found by Perez et al. (2006) for the Spanish banking industry, which stipulates the same detailed strict rules for calculating

LLPs as the PMA. They found evidence of income smoothing while not finding evidence of capital management.

Taktak et al. (2010) by studying a sample of Islamic banks found evidence of income smoothing but without the use of LLP. This can be the case in the Palestinian banking industry where bank managers use the LLP for meeting the legal reserve requirements while using other means to smooth their income. A study should be conducted to test this hypothesis.

The Palestinian Monetary Authority dictates strict detailed rules on how loan and investment provisions should be accrued in an attempt to prevent managers from using their discretion. The results indicate that the use of such rules did not prevent managers from using their discretion. Since this was the case, it is recommended that regulatory authorities should adopt more principle-oriented rather than rule-oriented standards while increasing the amount of Transparency by demanding detailed disclosures of loan loss policies and calculations. This will enable users of the financial statements to rely on their estimates rather than on information provided by managers. This conclusion is similar to the conclusion reached by Perez (2006) for the Spanish banking industry that also have detailed rules for the loan loss provision calculation.

It seems that Palestinian bank managers are more concerned with meeting regulatory requirements set by the Palestinian Monetary Authority than window dressing accounting figures such as smoothing income. This conclusion is similar to the conclusion reached by Ismael et al. (2008) for the Malaysian banking industry which is tightly regulated.

This study was conducted with only 35 bank years and whenever more data can be procured, the study should be conducted again to obtain more accurate results. With the absence of data, a time series model cannot be adopted or a double stage model that first separates the discretionary part of the loan loss provision from the non-discretionary part, then the use of the discretionary part to test for earnings and capital management.

This study only tests the use of loan and investment provision in earnings and capital management. Other studies can be conducted to test the distribution of earnings to test whether there is any earnings management and then test specific accruals or even real decisions that can be related to the earnings management.

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Further Research Topics

Earnings management in Palestinian banks to avoid earnings declines.

Earnings management in Palestinian banks to exceed thresholds.

Management of Loan Loss Provisions and the distribution of earnings in the Palestinian banking industry.

Management of Loan Loss Provisions and the behavior of security prices in the Palestinian banking industry.

Determinants of signaling by Palestinian banks through loan loss provisions.