



Impairment Accounting Practice in Jordanian Industrial Public Shareholding Companies under IAS 36

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Author's contribution

The sole author designed, analyzed and interpreted and prepared the manuscript.

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ABSTRACT

Aims: The object of the research is to provide empirical evidence on the Jordanian industrial companies how to measure a value of their non-current assets impairment through analysis of Discount Cash Flows (DCF), to reach evidence that the occurrence of impairments is less dependent on financial performance.

Study Design: The pertinent data was investigated for a 4 year period, i.e. a total of 120 observations (year- company) were tested. I adopted descriptive statistics, regressions and correlations to find out the relationship among the variables and their strength, the study uses panel data analysis to estimate what a dependent variable will be for a given values of independent variables.

Methodology: The author has randomly collected a panel of (30) industrial public Shareholding companies listed in Amman Stock Exchange (ASE) out of 73 companies covering the period for four years 2005-2008. The author tested the effects of Independent Variables on Impairment write-off using the panel data methodology.

Originality/Value: This work contributes to the literature in two ways: First, no previous evidence such this exists for the case of IMP. Second, unlike previous studies, TAS, OCF, DER, ROA, and ROE have been examined as proxies for IMP in the current work.

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Findings: It is shown that there is a positive weak and insignificant relationship between Impairment Loss (IMP), and financial indicators, such as Return on Assets (ROA), and Return on Equity (ROE). It is also shown that there is a negative weak and, insignificant relationship between IMP and Debt Ratio (DER). It seems that there is little possibility of adjusting IMP by using these indicators. The result of coefficient of determination shows that approximately 76% of changes in IMP are related to Operating Cash Flows (OCF), and Total Assets (TAS). Similarly, increase of Operating Cash Flows (OCF) will lead to increase of IMP. It appears that the purported increase in monitoring of highly leverage companies, ROA and ROE were not perceived as a significance by the industrial companies, therefore had no influence on IMP, but TAS is negatively correlated with DER.

Keywords: Jordan shareholding companies; impairment; IAS 36.

JEL: M40, M41.

1. INTRODUCTION

Industrial companies making larger-scale investments in non-current assets, this entails the frequency and magnitude of write-offs for these assets in order to improve the reporting of these economics. In accounting practices, non-current assets evaluation based on the current market situation that is one of the most complex issues because the evaluation is cofounded by a lack of available fair values, as these assets have low liquidity, moreover, evaluation non-current assets for impairment requires substantial judgment and estimates. Impairment of Non –current assets requires the company to determine the recoverable amount. The recoverable amount is a combination of two measurement bases: the higher amount out of fair value less cost to sell and value in use [1]. In order to determine the value in use, the company has to apply a commonly discounted cash flow (DCF) calculation. The two input factors required to apply a DCF calculations are the estimated future cash flows, and the discount rate [1]. The current study's *aim* is to examine how the Jordanian industrial companies measure a value of their non-current assets impairment, to show how to start with a thorough analysis of DCF through suitable (WACC) which is starting point for companies reporting under IAS 36. Even if the theoretical differences between the WACC and the 'incremental borrowing rate' are left aside, non-current asset impairment accounting in Jordan has been introduced by some companies since 1999, in which the *implementation of International Accounting standards (IAS) in Jordan had been commenced* [2]. The discount rate is a rate that can be paid by the company in a deal market under way to borrow money to a group of assets. If the discount rate is not available in the market, we

must use the rate of replacement which reflects the time value of money over the life of the original taking into account the cost of capital weighted to the company, and the rate of the additional borrowing to the company, and any other rates for borrowing, and must recognize the loss of lack of value of the asset when the book value is higher than its recoverable amount [1]. The main objective of the current study is to investigate the effect of operating cash flows, total assets and other accounting ratios on the impairment loss for the periods 2005-2008. This study consists of five sections. Section one is introduction, section two reviews related literature on meaning and other related components of impairment loss , section three explores methodology, section four shows results and discussion of data, and section five dwell on conclusion and recommendations.

2. LITERATURE REVIEW

A number of studies separately examine the value-relevance of goodwill impairment loss. Some studies find evidence consistent with goodwill impairment providing value-relevant information find evidence that goodwill impairment losses are significantly associated with long-window stock-price returns [3]. SFAS 142 made two significant changes to goodwill accounting. First, firms are required to annually test goodwill for impairment. Second, firms are prohibited from systematically amortizing goodwill. In that study, it finds evidence that annual impairment testing improves financial reporting [4]. A number of studies, using pre-SFAS 142 data, examine the value relevance of goodwill amortization under APB Opinion 17 [5]. Find that goodwill amortization is significantly associated with stock price in a manner consistent with it being viewed as an expense by

investors. In addition, [6] provide evidence that firms taking write-offs are more likely to have additional write-offs in future periods, and that the earnings response coefficient is decreasing in the frequency of reported write-offs. Others [7] find that firms reporting write-offs exhibit significant negative abnormal returns for a two-year period following the write-off, suggesting market practitioners may not fully understand the economic consequences of write-offs. Alternatively, [8] examine the value relevance of earnings, with and without impairment loss, and find that the explanatory power of the two earnings measures are insignificantly different. This evidence is inconsistent with goodwill impairment loss providing value-relevant information. However, they also report separate regression results that goodwill impairment loss is significantly associated with stock price. The weight of these results seems to indicate that goodwill impairment losses convey value-relevant information. However, it is not clear to what extent that level of value relevance is an improvement over pre-SFAS 142 accounting for goodwill using systematic amortization. It seems important to note that one of the most studies related to this pivot is examining the effect that the issuance of SFAS 121 had on the recognition of impairment losses. In that study the author found that, although SFAS 121 was issued in order to prevent 'big bath' write-downs, the write-downs under SFAS 121 were in fact even less related to the reporting entity's underlying economics. Among the reasons for those results discussed by him are SFAS 121's use of undiscounted cash flows and the disregarding of both risk and cash-flow structure [9]. Little studies Describe the way how value in use has been required to be assessed in accordance with the IAS36 and how this process is prone to application misstatements developing conceptual and financial mismatches with other requirements of the accounting standards [10]. The traditional valuation methods are not effective enough when there is a downward direction in the market [11]. Another study aimed at testing a sample of Australian industrial companies to find the factors influencing asset write-downs, and whether managers have a motivation to apply assets impairment. Their results indicate that the mean of the asset write-down as a percentage of total assets is 4.4%. They found that managements often have a motivation to impair assets when the financial statements are able to absorb such impairment, and a write-down is more likely if there has been a change in management [12]. The objective of

another paper is to analyze the determinants of the occurrence and magnitude of long-lived asset impairments for companies listed on the Warsaw Stock Exchange. The empirical research was based on the sample of 180 firm-year observations of companies which disclosed impairments, and the control group consisted of 390 observations. The authors provide evidence that the occurrence of impairments is less dependent on financial performance, and it is more influenced by changes in senior management, audit quality and some indicators of the capacity to absorb the write-offs: size of the company, the share of property, plant and equipment in total assets, and cash reserves in preceding periods. There were strong effects of recurrence for write-offs. The magnitude of write-offs is linked negatively with percentage changes in sales and the size of the company. Recurrence is not very significant under the multivariate analysis, but is significant according to the correlation analysis. The multivariate analysis has shown evidence of strong links between the magnitude of write-offs recognized as expenses and large negative and positive changes in earnings, and also with increased discretionary accruals [13]. Moreover, other article reveals the theoretical and practical relevance of the researched topic examines the existing approaches used by Latvian companies for measuring the value of long-lived assets and considers the peculiarities of information disclosure in their financial statements. Particular attention is paid to the importance of measuring assets impairment using the example of a Latvian fuel retail company. The authors' article show that the topic of accounting measurement and evaluation of long-lived assets and there financial performance remains the subject for considerable debate among scholars and professionals. Latvian companies are making their first attempts to implement IAS36 but facing a number of challenges, i.e. they now need to address serious issues of both organizational and methodical nature [14]. Similarly, [15] conduct a case of impairment practice, they revealed the theoretical and practical relevance of the researched topic examines the existing approaches used by Latvian companies for measuring the value of non-current assets and considers the peculiarities of information disclosure in their financial statements. Particular attention is paid to the importance of measuring assets impairment using the example of a Latvian fuel retail company. The authors' conclusions based on the study of Western publications and analysis of Latvian practices will

be useful for the company management when forming the company's accounting policy for measuring and valuing non-current assets, and may be taken into consideration by investors when developing investment strategies. [7] proved that the new rules of goodwill accounting outperform the previous enactments. On the other hand, [16] Asset impairment accounting and appraisers: evidence from Japan, clarified the characteristics of companies that used asset impairment accounting and the actual conditions of appraisers' involvement. The analysis shows that companies with high land-impairment ratios are conspicuously likely to select an appraiser's valuation. Appraisers' participation in asset impairment accounting restricts directors' discretionary behavior and suggests the possibility of increasing financial reports' reliability. [3] concluded that goodwill accounting under SFAS 142 does not improve financial reporting compared to amortization-based accounting. Impairment of the non-current operational assets, measurements and disclosure in Financial Statements of polish public companies, but [17], aims to analyze the degree of implementation of IAS 36 to the external reporting practice of the companies listed on the Warsaw Stock Exchange (WSE), and the quality of information generated on non-current operational asset impairment, one of its conclusion is, the value in use measure is very closely related to the companies' value calculation methodology and value based management system, information needed to be prepared and revealed on the value in use in accordance with IAS 36 is very similar to these postulated in the various kinds of value reporting initiatives, insufficient information in the field of assets measurement could make non-current operational assets impairment rules a useful tool for earning management. In UK, the absence of authorities guidance was changed in 1998 when accounting standard board issued Financial Reporting Standard (FRS) 11, Impairment of Fixed Assets and Good Will. [18] examining impairment accounting practice and impairment testing methods in Russia and Kazakhstan, one of its aims is to provide findings indicating trends in the level of compliance with the goodwill accounting by firms in Russia and Kazakhstan. Also seeks to establish whether there was a difference in the level of compliance between Russian and Kazakhstan firms. It concluded that a generally improving trend in the level of compliance by Russian and Kazakhstan firms, also the results provide evidence of a positive relationship of the level of compliance by

Russian firms with firm goodwill intensity. Chambers (2006) found evidence that annual impairment testing of goodwill has improved financial reporting, and also found evidence that the elimination of systematic amortization has reduced the quality of financial reporting [19]. *The significant value in financial statement is denoted by the non-current assets. The implementation of the International financial reporting standard in Nigeria commenced in the year 2012 which insisted on the implementation of impairment of assets (IAS 36) and how the impairment loss should be recognized. This study attempts to fill the gap in literature by assessing the disclosure of impairment of assets in Nigerian Banks. The objective of this study is to investigate the level of compliance of Nigerian banks with impairment of non-current assets (IAS 36) in their year 2012 financial reports and also the no. of banks which disclosed additional information on significant impairment of assets on their financial statements for the year 2012. The results of the research showed an increase in the number of Banks which disclosed impairment losses as well as the value of impairment losses. It is expected that there will be an improvement in the extent of disclosure in the subsequent annual reports.[20]* .In china , a paper investigates the reversion of the long-lived assets impairment of the listed firms from 2001 to 2004. Almost half of listed firms reversed their long-lived assets impairment. On the whole, the profits would lower 40 percent and the 16.89 percent of firms would turn the profits into losses if the impairment of long-lived assets cannot be reversed. The firms with lower profits, turning losses into profits and changing the management have more incentives to increase the current earnings by reversing the impairment of the long-lived assets. The study concluded that the economic factors such as inadequate conditions facing the industry and corporate influence in the loss of the lack of value of the assets of these companies [21]. Based on the issued "Accounting Guidelines for Enterprises "at the end of 2000, this paper studies the two determinants of asset lists: economic factors and earnings management. The research sample includes all inferior listed firms during the accounting period of 2001-2003. The empirical results reveal that the economic factors, such as the unfavorable circumstance facing the industry and the firms themselves, have an relationship with asset loss reported by these firms. After controlling the influence of economic factors, we still find some evidences that the inferior listed firms have taken a clearing by write-offs [22]. But

from the Arabian side, accounting literature has been conducted to identify the concepts of accountability lack of value of long-term assets in the accounting standards of U.S, and international one, with their application in Syria, this study included a sample of (60) persons whom the practitioners of the auditing profession, and practitioners of the profession of accounting firms, in both public and private sectors in Syria, this study found that there are differences between American standards and international accounting standards, moreover, found that the public and private sectors do not apply any of these criteria, the study therefore recommends the application of international accounting standards in Syria. Accounting of impairment was still issue under discussions and there were no definite rules for amounts, timings, methods of impairment recognition, Accounting of impairment was still issue under discussions and there were no definite rules for amounts, timings, methods of impairment recognition side [23]. To identify the reality of implementing International Accounting Standard 36 "Impairment of Assets" in Jordanian industrial companies shareholders. One of the most important findings of the study is the existence of sufficient companies' awareness and understanding the importance of the standard. The study also revealed that the companies were committed to implement the standard and provide its related disclosures [24]. Accounting of impairment was still issue under discussions and there were no definite rules for amounts, timings, methods of impairment recognition [25]. I conclude based upon previous literature, In general, empirical literatures on impairment of assets in the Arab World and in Jordan as a part from, they are so scanty, due to the difficulty of determining value relevance of accounting information or other determinants like the absence of the availability of active market. Also, most of researches worldwide concentrated on the usefulness of the new standards as compared to the previous practices. But, regarding the current study, there are no adequate studies in the accounting literature that investigate the effect of (total assets, operating cash flows, leverage, ROA, ROE) as financial indicators on impairment, particularly in the developing countries like Jordan.

3. RESEARCH METHODOLOGY

3.1 Data Collection and Sample Size

Data were collected from Annual reports of the selected industrial companies listed in Amman

Stock Exchange (ASE); the sample is limited to years (2005-2008). The industrial sector is chosen because of the importance role it plays in Jordan economy. Out of (73) industrial companies only (30) companies were selected because the availability of the required information during the research period. However, the pertinent data was investigated for a 4- year-period, i.e. a total of 120 observations (year-company) were tested for hypothesis testing. I adopted descriptive statistics, correlations (this technique is used to find out the relationship among the variables and their strength) [26], the study uses panel data analysis (to predict or estimate what a dependent variable will be for a given values of independent variable) for data analysis and hypotheses testing. However, panel data analysis is not without possible drawbacks. Problems that originate from cross-section and time series data such as heteroscedasticity and autocorrelation can also affect the panel data analysis [27].

3.2 Measurement Model and Variables Used

Companies will record impairment if they observe a decline in the value of their assets below carrying amount. The reporting of asset impairment is a function of some accounting indicators. The following panel data regression model is used to find out the relationship between impairment loss, and other accounting variables if any.

$$IMP = C_0 \pm C_1 TAS + C_2 OCF + C_3 DER + C_4 ROA + C_5 ROE + \epsilon$$

Where:

IMP: Impairment Loss
 TAS: Total Assets
 OCF: Operating Cash Flow
 DER: Debt Ratio = Liabilities / Total Assets
 ROA= Net Income / Total Assets
 ROE= Net Income pertains to shareholders/
 Total Shareholders' Equity

ϵ : Error term supposing zero mean and fixed variation

3.3 Hypotheses Development and Data Presentation

This study aims to restrict itself to looking only at financial performance measures with impairment

write-offs. [28] found that companies typically take their impairments when earnings are unexpectedly high (smoothing) or when they are unexpectedly low (big bath accounting) (ROA). [29] found that firms with unexpected negative earnings seem to be accelerating the impairment recognition, which indicates a big bath accounting behavior (ROE). Accounting profitability was measured with four of the most extensively used measures of accounting profitability for each company –year: ROA, ROE, ROS, and ROI [30]. ROA was calculated as net income divided by total Assets plus depreciation, ROE as net income divided by common equity, ROS as net income divided by total sales, and ROI as net income divided by total invested capital. One can conclude that size of Company may require more utilization of funds in form of non-current assets, more utilization means, and more turnovers. These measures below can be used in the following assumptions to achieve the objectives, the research hypotheses are addressed as follows: There is a significant relationship between IMP and each one of these indicators which includes the following: OCF, DER, ROA, ROE, and TAS.

- Sub-hypothesis 1: There is a significant relationship between IMP and OCF
- Sub-hypothesis 2: There is a significant relationship between IMP and DER
- Sub-hypothesis 3: There is a significant relationship between IMP and ROA
- Sub-hypothesis 4: There is a significant relationship between IMP and ROE
- Sub-hypothesis 5: There is a significant relationship between IMP and TAS

3.3.1 Research hypotheses test

To test research hypotheses; I used descriptive statistic, correlations between variables, and regression models.

3.3.2 Descriptive statistic

Table 1 shows the descriptive statistics of research variables. The values were obtained and analyzed using SPSS, E. Views, and Excel. Results from analyzing descriptive statistics revealed that the obtained mean for IMP fluctuated between (4, 206, 70.830) and

(2.036E8), with a standard deviation (3.465217E7). This high dispersion indicates the absence of a unified approach among companies for information. This High standard deviation obtained is probably due to the major difference in firm sizes of companies enlisted on Amman Stock Exchange. Furthermore, OCF has maximum and minimum values of (2.52E+08), and (-2.519E7) respectively with a mean value of (8.56306E6). The standard deviation of (3.268588E7) shows a significant dispersion from the mean. The variable of ROA has maximum and minimum values of (71.410) and (-279.040) respectively with a standard deviation of (39.661) which suggests a considerable variation or dispersion from the mean value of (5.099417). The ROE variable has a mean value of (0.919), a maximum value of (108.490), and a minimum value of (-279.920). The standard deviation of (42.823) shows a significant dispersion from the mean. The Jacque-Bera p-value ($p=0.00<0.05$) indicates that all data satisfies normality.

In the current study, the discount rate equals to (5%) applied for calculation of impairment loss. The most difficult issues that I face are related to the calculation of recoverable amount, including the discount rate used. Determining an appropriate discount rate that reflects current market assessments, the appropriate risks will often be difficult that will require more attention and consideration from financial management for valuation appraisals. The appropriate way to calculate the impairment loss is to compare long lived assets carrying amount with value in use. If the carrying amount (book value) of such assets is lower than value in use, the impairment loss will not occur. The amount of asset impairment is equal to the difference between the book value and the recoverable value of an asset for calculating value in use. The discounted cash flows for non-current assets can be computed as follows: (1) Cash flows for Long lived Assets = {Operating Cash Flows} {Long lived Assets ÷ Total Assets}, and (2) Discounted Cash Flows={ Annual Operating Cash Flows for Long lived Assets} {Discount Rate}. Capital Assets Pricing Model (CAPM) based on the Weighted Average Cost of Capital has been estimated (WACC) at 5% for the industrial companies as a whole. The following Table 2 represents the discount rates for the years covered in this study.

Impairment information about companies that use non-current assets impairment is collected from financial statements as shown in Appendix 1, and Table 3, in which the large companies in

Jordan began using asset impairment accounting at an early of 2000. Moreover, it is conspicuous that the ratio of amount of impairment to total assets applied in 2006, 2007, and 2008 is much

higher than in 2005 as a base year. It is clear, therefore, that the large companies with latent losses chose to apply impairment accounting on their own initiatives.

Table 1. Descriptive statistic

	Jarque-Bera		Min.	Max.	Mean	Std. dev.
	Statistic	Probability				
DER	28.900	0.00	.310	106.55	33.17208	17.810
ROA	9478.04	0.00	-279.040	71.410	5.09942	39.661
ROE	5024.15	0.00	-279.920	108.49	.91900	42.823
IMP	784.70	0.00	4,206,70.8	2.036E	1.75448E7	3.465217E7
OCF	5961.99	0.00	-2.519E7	2.525E8	8.56306E6	3.268588E7
LNTAS	6.34	0.04	12.99	19.42	15.4748	1.585

Table 2. *Discount rates for (2005) to (2008)

Year	2005	2006	2007	2008
Discount rate	-	0.95238	0.90702	0.86383

* Present value Interest factors for one JD discounted at .05 percent for n periods

Table 3. Impairment to total assets ratio

2005 as a base year			Impairment loss/total assets			
2008	2007	2006	2008	2007	2006	2005
-97.76%	-91.73%	- 89.19%	97.55%	91.54%	89.00%	99.79%
+98.51%	+97.98%	+99.20%	96.40%	95.88%	97.07%	97.86%
+105.87%	+111.66%	+99.46%	104.12%	109.81%	97.82%	98.35%
+113.28%	+112.06%	+110.82%	108.52%	107.35%	106.16%	95.80%
+104.52%	+98.88%	+97.20%	100.00%	94.60%	93.00%	95.67%
+114.86%	+108.83%	+109.75%	106.12%	100.55%	101.39%	92.39%
+121.81%	+112.27%	+111.62%	106.16%	97.84%	97.27%	87.15%
+94.99%	+100.20%	+98.38%	88.19%	93.02%	91.34%	92.84%
-88.41%	-87.47%	-91.65%	95.26%	94.25%	98.76%	107.75%
-87.25%	-90.73%	-94.66%	98.84%	102.78%	107.23%	113.28%
+106.05%	+103.64%	-86.20%	103.71%	101.36%	84.30%	97.80%
+113.37%	+107.68%	+105.21%	99.30%	94.32%	92.16%	87.59%
+121.81%	+112.27%	+111.62%	106.16%	97.84%	97.27%	87.15%
-97.21%	-94.95%	+104.72%	98.11%	95.83%	105.69%	100.92%
+107.08%	+112.85%	-90.21%	102.87%	108.42%	86.66%	96.07%
-103.27%	-87.62%	-84.67%	110.85%	94.05%	90.89%	107.34%
+115.20%	+127.56%	+134.62%	101.29%	112.15%	118.36%	87.92%
+87.79%	+105.91%	+105.48%	75.03%	90.52%	90.15%	85.46%
+124.96%	+107.69%	+103.09%	86.38%	74.44%	71.26%	69.13%
-72.55%	-86.37%	-93.24%	69.50%	82.74%	89.32%	95.80%
+117.44%	+115.45%	+126.52%	96.33%	94.70%	103.78%	82.02%
+108.82%	+116.52%	+101.65%	95.50%	102.26%	89.22%	87.77%
+99.74%	+99.33%	+105.49%	96.12%	95.72%	101.65%	96.37%
-93.49%	-97.72%	-96.37%	98.58%	103.05%	101.63%	105.45%
-76.19%	-86.72%	-90.92%	83.87%	95.46%	100.08%	110.08%
-97.74%	-85.72%	-98.74%	102.07%	89.52%	103.12%	104.43%
-106.48%	-85.24%	-83.45%	114.88%	91.97%	90.04%	107.90%
+113.17%	+117.82%	+118.34%	98.47%	102.51%	102.96%	87.00%
+110.53%	-94.43%	-105.15%	117.61%	100.48%	111.89%	106.41%
+105.78%	+96.80%	+103.42%	101.81%	93.17%	99.54%	96.25%

The highest impairment loss as a percentage of total assets was registered in 19 companies for 2006, 20 companies in 2007, and 22 companies in 2008 compared with impairment ratio in 2005 as a base year. This constitutes more than half of the companies under study. None of the companies applies impairment testing to intangibles; amortization is the primary method for subsequent evaluation of intangible assets. Moreover, all the companies' Balance Sheets show the initial cost of the asset minus the accumulated depreciation. Significant fluctuations of Impairment loss/ total assets ratios can cause many questions from the users of financial statements; one of the first questions might be "Are the methods used for the measurement and evaluation of non-current assets adequate to the current market situation?" Perhaps, non-current assets book value is overstated or understated. Matrix correlation between variables is presented in Table 4 as it is shown; the highest correlation coefficient between variables is between ROE and ROA stood at (84.4%). Also total assets in the company approximately has a positive strong correlation with (77.7%) compared with impairment loss; it means more property companies own, the more latent property losses they hold. Therefore, these companies have a higher chance of suffering impairment. In addition, the correlation between operating cash flows and impairment loss is positive reasonable (75.10%) and significant at 0.01 levels (2-tailed). Generally, to address the basic Pearson Correlation between variables, I tested for this correlation as presented in Table 4. The results show a combination of positive and negative relationship among the variables. While positive relationship can be seen between IMP and ROA,

ROE, TAS, and OCF, there appear to be a negative relationship between IMP, and DER. Pearson correlation did not identify a statistically significant relationship of IMP by industrial Jordanian companies with DER, ROA, ROE; (0.576), (0.257), and (0.628) respectively. However, tests revealed that relationship was positively significant between IMP and TAS (P=0.000), and OCF(P=0.000). Consequently, the findings confirmed that the increase in the level of company size measured by Total Assets (TAS) is positively associated with Impairment Write-off (IMP). Similarly, increase of Operating Cash Flows (OCF) will lead to increase of IMP. It appears that the purported increase in monitoring of highly leverage companies was not perceived as significant by the industrial companies and therefore had no influence on IMP. Similarly ROA and ROE are positively correlated with IMP, but TAS is negatively correlated with DER.

3.3.3 Normality and autocorrelation tests

Since the analyses in this section are conducted using e views version 7. Jarque-Bera was followed through for data normality. I am using the variance inflation factor (VIF). VIF is the most accurate method to detect the seriousness of multicollinearity problem. From the results as presented in Table 5, I find that none of the variables tested indicates the presence of multicollinearity as the centered VIF of the variables were all less than 10 for each of the regressions indicating no serious collinearity among the research variables [31]. It means that there is no multicollinearity problem exists in the regression model. Otherwise there is a serious multicollinearity problem exists in the model.

Table 4. Pearson correlation between variables

		DER	ROA	ROE	IMP	OCF	TAS
DER	Correlation	1					
	Sig. (2-tailed)						
ROA	Correlation	.276**	1				
	Sig. (2-tailed)	.002					
ROE	Correlation	.281**	.844**	1			
	Sig. (2-tailed)	.002	.000				
IMP	Correlation	-.052	.104	.045	1		
	Sig. (2-tailed)	.576	.257	.628			
OCF	Correlation	-.027	.061	.034	.751**	1	
	Sig. (2-tailed)	.770	.509	.714	.000		
TAS	Correlation	-.060	.132	.089	.777**	.523**	1
	Sig. (2-tailed)	.516	.151	.333	.000	.000	
	N	120	120	120	120	120	120

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

Table 5. Investigation of collinearity between the independent variables

	Tolerance	VIF
DER	.907	1.102
ROA	.282	3.547
ROE	.284	3.517
OCF	.726	1.377
LNTAS	.710	1.408

Durbin-Watson statistic is (2.7252) and as regard this statistic less than 4, so there is no autocorrelation between the residual models. The R-squared indicates the explanatory power of the independent variables, which in this study Adjusted R-squared was (74.91%) which statistically significant and indicates that the explanatory variables are well chosen.

3.3.4 Hypotheses testing

Panel data method is used. For the analysis purpose, Hausman test is used to compare the estimation method of fixed and random effects. So, firstly pooled method based on the regression model was fitted. Results of Hausman test for study hypothesis model is given in Table 6. The findings demonstrate the acceptance of H0. On this basis, it is suggested to use fixed effects for fitness of regression model of hypothesis test. Thus, regression model of hypothesis test, based on the panel data and in the fixed effects the method is fitted. Statistic hypothesis related to Hausman test are as follows:

- H0: Regression is based on the fixed effects; there is no relationship between individual effects and description variables.
- H1: Regression is based on the random effects; there is a relationship between individual effects and description variables.

The results of the pooled ordinary least squares - fixed effects and the random effects estimation models- for the panel data of the sample's observations for the period 2005 to 2008 are displayed in Table 6. The regression model results using (ROE), (ROA), and (DER) are not significant. The results make these three ratios not useful measures of impairment loss in the Jordanian industrial companies' case. Therefore, the discussion of results is more concentrated

and centered only on the measures that are related to TAS and OCF. Similarly, the results show that the joint effect of the five determinants accounted for about 74.91% of the value of the industrial companies listed at the ASE. This implies that about 74.91 per cent of the value of these 25.09% is accounted for by other determinants. Hence, I rejected the null hypotheses numbered in 1 and 5. Also, the adjusted coefficients of determination were zeros for hypotheses 2, 3, and 4 on the value of the impairment. I observe that not all variables had statistically significant individual (partial) effects on the impairment value of the companies. Empirical results of the tests of null hypotheses of the individual effects for the determinants at $p < 0.05$ is summarized in Table 6. Before estimating the regression equation, I examine the stationarity properties of the data series. A number of different panel unit root tests have been proposed by Maddala and Wu [32], Choi [33], Levin et al. [34], I'm et al. [35]. All the tests done previously evaluate the null hypothesis of unit roots, whilst the Hadri [36] test examines the null hypothesis that all the series in the panel are stationary. I therefore use only Hadri [36] test. The result suggests that the null hypothesis of non-stationarity is strongly rejected at 5%. For investigating relations between variables during research period, Pooled data used in this status. It's necessary to investigate stability of all variables in research period. To specify the stability of variables in pooled state, I applied pool unit root test such as Levin, Lin & Chu t statistic and Im, Pesaran & Shin W-statistic. Results in Table 6 show that all variables have been stable in during research period.

D. W. statistics within the range [2.7252- 2.3252], which indicates the absence of serial correlation of the residuals in the model. According to table above, p-value of the required coefficients to predict future impairment loss are not all smaller than 5%. Therefore, coefficients of TAS, OCF are significant, and can be used to predict IMP in the period of 2005 – 2008. While coefficients of DER, ROA, and ROE are more than 5%, these coefficients cannot be used to predict IMP. Results also indicate that the adjusted determination coefficient of the five variables is 74.9% for the study period. This means that around 74.9% of variations in the dependent variable are explained by independent variables. More specifically, results of OLS regression can be summarized below;

Table 6. Regression model of independent variables on IMP

Dependent: IMP	Prediction sign	Fixed effect	Random effect	Pooled OLS
Constant	-	-1.57E+08 (0.000)	-1.65E+08 (0.000)	-1.65E+08 (0.000)
DER	-	-75,920.36 (0.474)	-10,394.37 (0.912)	-10,394.37 (0.910)
LNTAS	+	11,199,094 (0.000)	11,510,982 (0.000)	11,510,982 (0.000)
OCF	+	0.4089 (0.000)	0.502337 (0.000)	0.5023 (0.000)
ROA	+	126,793.1 (0.274)	0.2371 (0.382)	66,345.20 (0.371)
ROE	-	-101,385.6 (0.000)	66,345.20 (0.350)	-65,436.55 (0.339)
Adjusted R ⁽²⁾		(0.749)	(0.760)	(0.760)
F-statistic		11.4503	76.3433	76.3433
Prob. (F-statistic)		(0.000)	(0.000)	(0.000)
D-Watson (D.W)		2.7252	2.3252	2.3252
Hausman ^(x²) test				13.457276
Hausman P .value				0.02
Hadri Z-stat				3.16228
Hadri stat Prob.**				0.001

Source: Author calculations

3.3.5 Pooled (stacked) OLS regression test result

The pooled (stacked) OLS result has an adjusted value R⁽²⁾ of 0.760, which suggests a 76.0% explanatory ability of the model for the systematic variations in the dependent variable. The F-stat (76.343) and p-value (0.00) indicates that the hypothesis of no significant relationship between the dependent and independent variables cannot be accepted at 5% level. An evaluation of the effects of the explanatory variables on the amount of IMP, I examine their slope coefficients. DER appeared negative (-10394.37) and insignificant at 5% (p=0.91). TAS appeared positive (11510982) and significant at 5% (p=0.00). OCF also appeared positive (0.502337) and significant at 5% (p=0.00). ROA appeared positive (66345.20) and insignificant at 5% (p=0.37). ROE appeared negative (-65436.55) and statistically insignificant at 5% (p=0. 034). The D. W. statistics of (2.325) indicates the absence of serial correlation of the residuals in the model.

3.3.6 Panel OLS (random effect) regression test result

The R⁽²⁾ value was considerable (0.7599) and explains about 75.99% of the systematic variations in the dependent variable. The F-stat (76.343) and p-value (0.00) indicates that at 5%

level, the null hypothesis is dropped for the alternative hypothesis of a significant linear relationship between the dependent and independent variables. On evaluation of the effects of the explanatory variables (DER), (TAS), (OCF), (ROA), and (ROE) on the amount of IMP, their slope coefficients were examined. DER appeared negative (-10394.37) and insignificant at 5% p= (0.91); TAS appeared Positive (11510982) and significant at 5% (p=0.00). OCF appeared positive (0.5023) and significant at 5% (p=0.00). ROA appeared positive (66345.20) but statistically insignificant at 5% (p=0.38); ROE negative (-65436.55) and statistically insignificant at 5% (p=0.35). The D. W. statistics of 2.325 indicates the absence of serial correlation of the residuals in the model.

3.3.7 Panel OLS (fixed effects) regression test result

Based on Hausman test result, the fixed effects panel data analysis was conducted and the result indicates a significantly higher proportion of systematic variations in the dependent variable (IMP). This suggests that the causal-relationship between TAS, OCF and IMP in the sample is influenced by cross-section specific effects which are realizations of independent fixed variables with mean zero finite variance and uncorrelated with the idiosyncratic residual. On evaluation of the effects of the explanatory variables, the

Panel OLS (Fixed effects) estimation shows an adjusted $R^{(2)}$ value of 0.7491 which suggests a 74.91% explanatory ability of the model for the systematic variations in the dependent variable. The F-stat (11.45028) and p-value (0.00) indicates that the hypothesis of no significant linear relationship between the dependent and independent variables cannot be accepted at 5% level. An evaluation of the effects of the explanatory variables on the amount of IMP shows the slope coefficients in which DER appeared negative (-75920.36) and insignificant at 5% ($p=0.47$). TAS appeared positive (11199094) and significant at 5% ($p=0.00$). OCF appeared positive (0.408916) and significant at 5% ($p=0.0000$). ROA appeared positive (126793.1) and statistically insignificant at 5% ($p=0.24$). The effect of ROE appeared negative (-101385.6) and statistically insignificant at 5% ($p=0.028$). The D. W. statistics of (2.725199) indicates the absence of serial correlation of the residuals in the model.

The results for both methods (Fixed and Random Effect) suggest the significance of TAS, and OCF as determinants for IMP and have the expected sign. Other independent variables have no any significant values as factors influencing IMP. Additionally, a Hausman test was performed to select the most appropriate model. The Chi-Sq. Statistic is (13.457276) with $p\text{-value}=0.0195$, suggesting that fixed effects model is preferred. According to fixed effect results, the relationship between IMP and (Debt Ratio) DER is negative and statistically not significant. Companies with a higher DER may not tend to be affected. This result is consistent with pecking order hypothesis which state there is a hierarchy in financing sources, first internal sources, second low-risk debt and third equity. Regarding the positive correlation with total assets, the result suggests that growth of company size expressed by total assets lead to more impairment loss, or high LNTAS lead to higher IMP.

4. DISCUSSION OF THE RESULTS AND FINDINGS

For testing Sub-hypothesis number one, the relationship between two variables is positive; it means if OCF increases by company, impairment loss increases. It should be noticed that the relationship between OCF and IMP is (0.751), and statistically is significant considering t-Statistic (0.000). The result of this hypothesis test is presented in Table 5. According to the regression results, the impairment loss is

significantly positive with a 5% level. This means that companies with high operating cash flows are conspicuously likely to adopt impairment policy, and tend to make impairment loss. Significance of regression coefficient indicates that variables other than OCF affect IMP. Also for finding out if there is a significant relationship between IMP and TAS or not, the analysis shows a positive relations; it means if TAS increases by company, impairment loss increases. It should be noticed that the relationship between TAS and IMP is strong (0.777) and is statistically significant considering t-Statistic (0.000). The results of this hypothesis test are presented in Table 6. According to the regression results, the impairment loss is significantly positive with a 5% level. This means that companies with high total assets are conspicuously likely to adopt impairment policy and tend to make impairment loss. Significance of regression coefficient indicates that variables other than TAS affect IMP. The result of F-statistic (0.000) shows that the model is significant considering the significance of effect of TAS on IMP. Overall, the first sub-hypothesis is accepted considering the significance of effect of TAS on IMP. On other hand, for testing if there is a significant relationship between IMP and ROA or not, one can find that the relationship between two variables is very weak; it means if ROA increases by company, impairment loss will not increase. It should be noted that the relationship between ROA and IMP is very weak (0.104) and is statistically insignificant considering t-Statistic (0.257). The results of this hypothesis test are presented in Table 6. According to the regression results, the impairment loss is not significantly correlated with a 5% level. This means that companies with high ROA are not conspicuously likely to adopt impairment policy, and do not tend to make impairment loss. Significance of regression coefficient indicates that variables other than TAS affect IMP. Overall, the third alternative sub-hypothesis is rejected considering the insignificance of effect of ROA on IMP. The same for Sub-hypothesis 4; this means if there is a significant relationship between IMP and ROE or not. The relationship between two variables is very weak (0.045); it means if ROE increases, impairment loss will not increase and is statistically insignificant considering t-Statistic (0.628). The results of this hypothesis test are presented in Table 6. According to the regression results, the impairment loss is insignificantly correlated with a 5% level. This means that companies with high ROE are not conspicuously likely to adopt impairment policy, and do not tend

to make impairment loss. Significance of regression coefficient indicates that other variables other than ROE affect IMP. Similarly, Sub-hypothesis number four tests if there is a significant relationship between IMP and DER. The relationship between two variables is very weak; it means if DER increases by company, impairment loss will not increase. It should be noted that the relationship between DER and IMP is very weak (-0.052) and is statistically insignificant considering t-Statistic (0.576). The results of this hypothesis test are presented in Table 6. According to the regression results, the impairment loss is insignificantly correlated with a 5% level. This means that companies with high DER are not conspicuously likely to adopt impairment policy, and do not tend to make impairment loss. Significance of regression coefficient indicates that variables other than DER affect IMP. The fifth alternative sub-hypothesis is rejected considering the insignificance of effect of DER on IMP. Considering results and considering insignificance of effect of three variables, ROA, ROE, and DER with t-statistic. (0.257), (0.628) and (0.576) respectively on IMP, while, the effect of OCF, and TAS is significance with t-statistic (0.0000), F-statistic (0.000000), which means, hypotheses 1, 2 are accepted as shown by table 6 while others are rejected.

5. CONCLUSIONS

Many issues appeared when studying financial statements of industrial companies that have been mentioned earlier in this article; the discount rate, future cash flows, and fair values for companies operating in the same industry for the same date. The accountant may use different discount rates 5%, or any other discount rate. This application may affect the investor's decision. This research shows a positive weak and insignificant relationship between IMP and ROA, ROE, negative weak and insignificant relationship between IMP and DER. so it seems that there is a little possibility of adjusting IMP by using these indicators. Significant fluctuations of impairment loss to total assets can cause a lot of questions from the users of financial statements. One of the first questions might be raised for the measurement and evaluation of non-current assets is applying discount rate, future operating cash flows, and calculation of recoverable amount. In other words, evaluation of non-current assets impairment remains the subject for considerable debate among scholars and

professionals. Most of the industrial companies do not apply impairment testing to non-current assets; amortization is the primary method for subsequent evaluation of these assets. Moreover, in the statement of financial position all the companies show the initial cost of the non-current asset minus the accumulated depreciation. The companies use different approaches to the disclosure of information about the impairment in their financial statements. For example, some companies disclose information about property separately. Others consider investment property as part of non-current assets. Given more years of financial statements data, it may be possible for future researches to come closer to estimate the impairment loss more accurate. The future sample of other researches consist of all industries; it is recommended that additional research be conducted to differentiate the types of industries, mining, and pharmaceutical, etc.

6. SUGGESTION REMARKS

Considering strong and significant relationship between IMP and TAS, OCF, it is suggested that the company has to develop a financial structure with measurement of the impairment, method of reporting impairment loss, and the reason for impairment. The need for further research to develop methodological approaches to accounting impairment of non-current assets, as well as to research the impact of other financial and non-financial elements of non-current assets impairment. It is necessary for all regulatory bodies in Jordan (Ministry of Industry and Trade, the Jordanian Certified Public Accountants (JCPA), Amman Stock Exchange., etc.) to identify the companies with the requirements relating to recognition, measurement and disclosure of IAS no.36. Adding to that listed companies should disclose impairment loss in their statements of income, financial position, and cash flows. The current financial statements do not present the facts fairly, because the principle of historic prices applied to value a part of accounting entity's assets is outdated. Finally, one can say, Impairment evaluations may be critical judgments that require more attention.

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COMPETING INTERESTS

Author has declared that no competing interests exist.

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APPENDIX

Appendix 1. Impairment loss among the classes of non - current assets in the industrial companies for the periods 2005-2008

N.	2008	2007	2006	2005	Discounted cash flows	Book values	Differences	Effect
1	503,163	1,750,773	2,303,287	42,778	4,600,001	82,093,819	77,493,818	Yes
2	1,116,858	1,503,015	1,069,267	783,924	4,473,063	140,579,393	136,106,330	Yes
3	(257,130)	(624,785)	141,044	105,042	(635,828)	25,427,943	26,063,771	Yes
4	(92,644)	(80,210)	59,902-	39,751	(193,005)	4,097,181	4,290,186	Yes
5	22.00	41,578	48,315	19,024	108,939	2,624,334	2,515,395	Yes
6	(53,390)	(4,004)	10,676-	64,169	(3,902)	3,215,025	3,218,927	Yes
7	(99,254)	35,292	43,773	213,793	193,605	6,508,835	6,315,230	Yes
8	459,096	1,961,669	2,095,680	1,387,150	5,903,595	75,552,098	69,648,503	Yes
9	286,514	353,092	77,751	-495,603	221,754	24,856,772	24,635,018	Yes
10	140,953	(19,641)	37,085-	-70,336	13,892	13,944,752	13,930,860	Yes
11	(80,693)	(33,086)	395,656	55,301	337,178	9,633,661	9,296,483	Yes
12	55,790	419,769	573,677	859,528	1,908,765	29,641,490	27,732,725	Yes
13	(99,254)	35,300	43,773	210,074	189,894	6,479,903	6,290,009	Yes
14	286,277	625,241	905,086-	-138,855	(132,423)	61,079,369	61,211,792	Yes
15	(169,233)	(534,504)	901,506	277,999	475,769	26,083,157	25,607,388	Yes
16	(5,118,827)	668,289	1,100,468	-855,891	(4,205,961)	82,139,761	86,345,722	Yes
17	(14,010)	(136,825)	204,286-	131,075	(224,047)	4,407,272	4,631,319	Yes
18	67,777,404	17,610,114	13,255,916	16,777,823	115,421,258	706,987,000	591,565,742	Yes
19	23,503,184	38,689,281	35,234,312	35,328,663	132,755,439	560,915,533	428,160,094	Yes
20	27,337,941	13,683,012	9,008,305	3,930,705	53,959,963	346,844,485	292,884,522	Yes
21	233,537	362,567	279,850-	1,406,439	1,722,693	28,432,933	26,710,240	Yes
22	22,513	(12,209)	57,408	63,328	131,040	2,090,378	1,959,338	Yes
23	149,383	171,333	67,252-	141,133	394,597	15,793,118	15,398,521	Yes
24	99,619	(350,652)	189,284-	-70,647	(510,964)	31452642	31,963,606	Yes
25	152,243	45,713	884-	-83,445	113,627	3,858,613	3,744,986	Yes
26	(70,587)	393,686	123,205-	-175,997	23,897	15,077,926	15,054,029	Yes
27	(257,455)	146,498	200,411	-174,087	(84,633)	7,770,315	7,854,948	Yes

N.	2008	2007	2006	2005	Discounted cash flows	Book values	Differences	Effect
28	20,031	(34,893)	41,687-	189,809	133,259	5,565,691	5,432,432	Yes
29	(4,649,762)	(80,341)	1,574,062-	-543,530	(6,847,696)	64,929,389	71,777,085	Yes
30	(119,682)	458,096	31,946	295,718	666,078	28,203,017	27,536,939	Yes
T	119,826,837	64,750,581	50,188,646	48,507,205	283,273,269	2,416,285,805	2,133,012,536	Yes

Source: Compiled from selected companies' annual reports for the study periods

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