International Journal of Academic Research in Business and Social Sciences
2017, Vol. 7, No. 9
ISSN: 2222-6990

Dose Listed Jordanian Manufacturing Firms' Profitability and Size Affecting External Audit Fees?

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DOI: 10.6007/IJARBSS/v7-i9/3312 URL: http://dx.doi.org/10.6007/IJARBSS/v7-i9/3312

Abstract

The external audit services and fees charged by clients to their auditors are clearly of benefit to both clients and auditors: Clients are legally required to have their financial statements audited and desire the fees they pay to be plausible, auditors render such services and care to ensure that the fees they charge are enough to qualify a favorable and pleasant service to be provided (Kikhia, 2014).

What distinguish the current investigation is the empirically examination of profitability and size and how affecting the external audit fees in industrial sector in Jordan for a total of five years, also the current investigation is prompted by the absence of studies on auditing and consulting expenses in Jordan, especially in manufacturing sector, which leads in this study to examine the effect of Profitability and size of listed Jordanian Manufacturing firms on External Audit Fees.

To achieve this target the study used quantitative techniques by using the (Eviews) software during the period from 2010 to 2015. The outcomes showed that there is no significant effect of return on asset (ROA) of listed Jordanian Manufacturing firms separately on external audit fees, also, there is a significant effect of size of listed Jordanian Manufacturing firms separately on external audit fees, and finally, there is a significant effect of Profitability and size of listed Jordanian Manufacturing firms jointly on external audit fees

Keywords: External Audit Fees, Profitability, Firm Size, and Amman Stock Exchange (ASE).

1. Introduction

External audit is an essential element in the corporate governance mission. The authority and duty of the external auditor is to confirm users of corporate financial statements that the statements are presented truly and fairly. So, external auditors are considered by the users of corporate financial statements as being independent, objective and dissimilar to be affected by the auditee. The significant role that an external auditor makes in corporate governance would be affected by fees paid to clients. (Hassan & Naser, 2013)

The value of an audit based on the understanding coming from users of audited statements on the auditor's capability to uncover misstatements or violations in the accounting system,

and to hold client compression to expose such detections. The computation of fees is a critical matter, where professional ethics and the benefitt of auditing did not permit that the prices budgeted is very high or very low (Castro et al., 2015)

Many studies have scanned audit pricing, competition in the audit function, product discrimination and audit cost industry. This study stand out on the work done to date by inspecting some factors that may affect external audit fees paid by Jordanian Manufacturing Companies listed on Amman Stock Exchange (ASE).

2. Previous Studies

Apadore (2016) investigated the relationship between profitability, corporate size, complexity, status of audit firm and audit client's risk, and the audit fees. The study employed multiple regression analysis on public listed manufacturing companies in Malaysia during the period of 2009 to 2015. This investigation was predictable to supply significant intuition to listed manufacturing companies in Malaysia into the determinants which are significantly related to audit fees charged by the auditors and helps auditors in pricing the audit services appropriately.

Alongside this, regulatory institutions can rely on this investigation to manage the performing of audit pricing. This study also present an improved research model that incorporates new variable (audit client risk) which is found to be significant associated with audit fees and the sample period covered will be after the implementation of GST and IFRS.

Castro et al., (2015), concluded a positive relationship between audit fees and the size (large and small clients), client's complexity, and Big N auditors, also revealed that in the smaller clients the audit fees is lower for the more riskier and leveraged clients, although it should be higher for the riskier. On the other hand, in the larger clients, those with higher risk, and having stronger governance exercises head for lay out more on auditing. The survey covered companies listed on the BM&FBOVESPA for 2012.

Monsuru, (2014), showed a positive relationship between complexity, risk, and audit fees, like wise a negative relationship between operating performances and audit fees, also showed that there is high influenced and significant association between the explanatory variables and the audit fees. The study employed panel data analysis on fourteen Nigerian commercial banks out of twenty-two which made up the population, and covered the period from 2008 to 2012.

Kikhia (2014) surveyed 117 non-financial Jordanian companies which listed at Amman Stock Exchange (ASE) for the period from 2010 to 2012. The results concluded that there is a relationship between the audited client size and external audit fees; moreover, there is a significant and negative relationship between financial risk and external audit fees, while there is no significant relationship between audit tenure and external audit fees

Ashfaq et al., (2014), investigated a comparative study during the period from 2005 to 2011 between Pakistan auditors China auditors. In the case of Pakistan, auditors mainly deem

difficulty of business transactions and client risk while pricing their appointment as an auditor, while in China the auditors only deem the Big 4 audit firm influence as a reputational tool while pricing their audit mission. Also the difficulty of business transaction is the only variable playing a part in positively and significantly in audit pricing of both countries. The auditors in China completely disregard the client risk and complexity of business transactions which may be difficult for their auditing firm in future. The study revealed that audit pricing in Pakistan is more logic in comparison to China. The panel data applied on 160 firms of each country of study.

Hassan & Naser, (2013), presented a direct relationship between audit fees and corporate size, business complexity and audit report lag, also found an inverse relationship between audit fees and industry type and audit committee independence, and finally showed that audit fees are not significantly affected by company's profitability, risk, and status of audit firm. The study applied regression analysis on non-financial companies listed on Abu Dhabi Stock Exchange (ADX) data were collected from the 2011 annual and corporate governance reports published by the Emirati non-financial companies listed on ADX.

El-Gammal, (2012) highlighted the factors influencing the value of audit fees, such as whether the audit firm is one of the big four, or the audit firm size, also the outcomes concluded that the degree of significance of each determinant of audit fees is identical between the two groups of respondents. The study applied data analysis descriptive statistics, means, standard deviation and Mann-Whitney U test on a sample of 80 respondents answering a questionnaire.

Hallak and Silva, (2012) examined the expenses for consultancy services provided by the same auditing firm; so, ignored all paying out on other consultants. The outcomes concluded that audit fees are positively related to company size, corporate governance quality, and the Big Four status of the auditor. Also there is a positive relationship between company size and Big Four status, but there is no significant relationship with corporate governance.

3. Generating Hypotheses

Main Hypothesis

H_{01}: There is no significant effect of Profitability and size of listed Jordanian Manufacturing firms on External Audit Fees.

Sub Hypothesis

H_{11}: There is no significant effect of return on asset (ROA) of listed Jordanian Manufacturing firms on External Audit Fees.

H_{21}: There is no significant effect of size of listed Jordanian Manufacturing firms on External Audit Fees.

4. Research Methodology

The current work seeks to find the effect of profitability expressed by return on asset (ROA) of listed Jordanian Manufacturing firms separately on External Audit Fees measured by taking the log of External Audit Fees amounts, and the effect of size measured by taking the log of total assets of listed Jordanian Manufacturing firms separately on External Audit Fees measured by taking the log of External Audit Fees amounts, and finally the effect of profitability and size of listed Jordanian Manufacturing firms jointly on External Audit Fees. The population consists of all listed Manufacturing Companies at Amman Stock Exchange (ASE) for the period from 2011 to 2015. The financial data will be gathered from Amman Stock Exchange official website. Moreover, the study will apply some statistical tests such as Stability diagnostic-CUSUM test, , Ordinary lease square (OLS), Wald coefficient test, Correlation of residual value through Breusch-Godfrey, Correlation of residual value, Variance of the residual, Distribution of residuals-Jarque Bera statistics, and Regression analysis, Johansen Cointegration Test, VECM Model.

4.1. The Research Sample

The survey population will consist of all listed Manufacturing Companies at Amman Stock Exchange (ASE) with total of sixty-two companies for the period from 2011 to 2015. The work will inspect the financial reports for 30 Manufacturing Companies which chosen upon a stratified sample those include150 observations. From the researcher point of view it is sufficient amount to reach credibility and generalization.

4.2. Variables of the Study

4.2.1. Dependent Variable_ External Audit Fees

External Audit Fees: can be realized as the value of fees (wages) charged by the auditor for an audit mission carried out for the accounts of the client, the definition of the audit fees is rely on the contract between the auditor and the client in agreement with time used up on the audit mission, the service required, and the number of staff needed for the audit mission. Audit fees are usually determined before starting the audit mission. (El-Gammal, 2012). In the current study the external audit fees will measure by taking the natural logarithm of the audit fees amounts for the sixty two companies; the sample of the study.

4.2.2. Independent Variables – Return on Asset (ROA), Firm Size

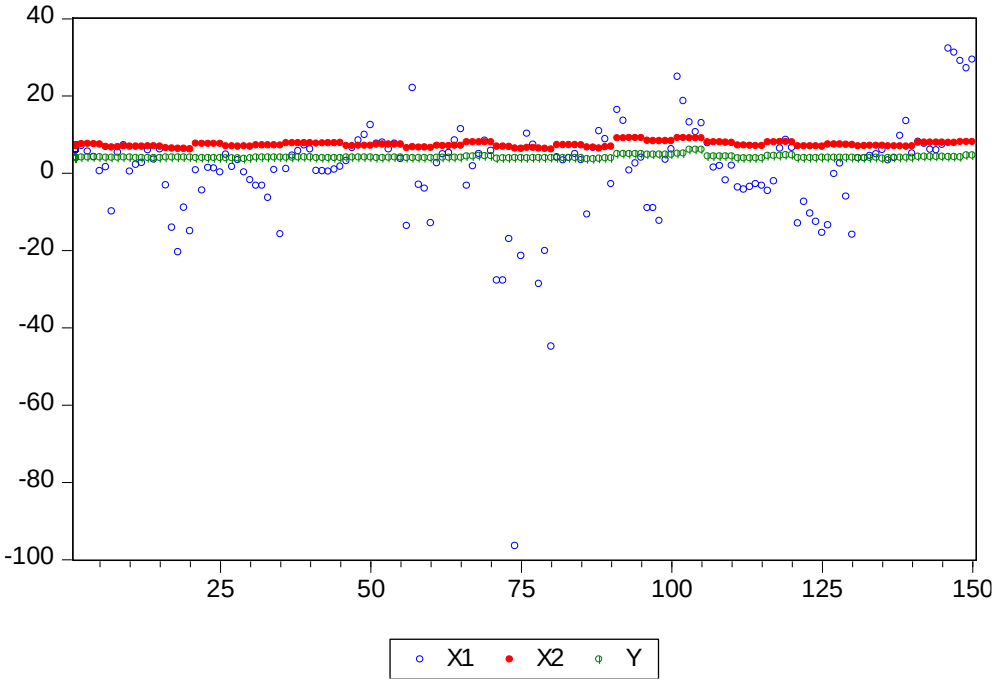
Return on Asset (ROA): Is a financial ratio that presents the percentage of an income a company gain in relation to its overall resources. It is often computed as net income divided by total assets. (https://www.inc.com)

Firm Size: The natural logarithm of the final amount of all gross investments, cash and equivalents, receivables, and other assets as they are presented on the Financial Position Statement, (http://www.businessdictionary.com) used to measure the client (auditee) size as an independent variable for the current study.

5. Data Analysis and Results

5.1 Check how all variables look

Figure 1: How all variables look



Where:
X1: Return on Asset (ROA)
X2: Firm Size
Y: External Audit Fees

5.2 Stability of External Audit Fees

Figure 2. Stability of External Audit Fees

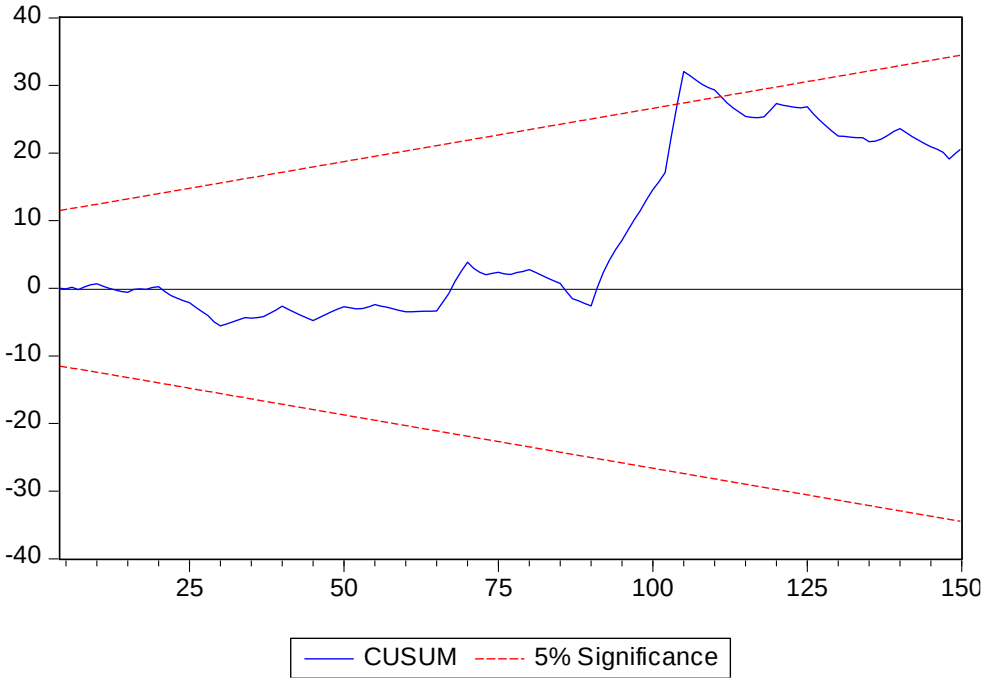


Figure 2. outcomes exhibit that the midst blue lines is so far between the two red lines, resulting in that external audit fees is considerably stable.

5.3 Regression

5.3.1Residual value

Table 1.

Actual	Fitted	Residual	Residual Plot
3.87500	3.96769	-0.09269	. *| .
4.00000	4.13705	-0.13705	. *| .
4.07900	4.18449	-0.10549	. *| .
4.07900	4.13851	-0.05951	. *| .
4.11400	4.13107	-0.01707	. * .
3.94000	3.79723	0.14277	. | *.
3.94000	3.77335	0.16665	. | *.
3.95400	3.74152	0.21248	. | *.
4.00000	3.83528	0.16472	. | *.
4.00000	3.82978	0.17022	. | *.
3.87500	3.82974	0.04526	. |* .
3.87500	3.84093	0.03407	. * .
3.87500	3.85588	0.01912	. * .

3.87500	3.84980	0.02520	. * .
3.87500	3.80461	0.07039	. |* .
3.98900	3.63108	0.35792	. | .*
3.98900	3.63283	0.35617	. | .*
3.98900	3.60759	0.38141	. | .*
3.98900	3.55950	0.42950	. | . *
3.98900	3.53040	0.45860	. | . *
3.87500	4.21880	-0.34380	*. | .
3.87500	4.19514	-0.32014	* | .
3.87500	4.18848	-0.31348	* | .
3.87500	4.19512	-0.32012	* | .
3.87500	4.19438	-0.31938	* | .
3.77800	3.84389	-0.06589	. *| .
3.77800	3.86352	-0.08552	. *| .
3.77800	3.84144	-0.06344	. *| .
3.69900	3.87043	-0.17143	.* | .
3.77800	3.85388	-0.07588	. *| .
4.00000	4.02806	-0.02806	. * .
4.02100	4.04266	-0.02166	. * .
4.04100	4.04282	-0.00182	. * .
4.00000	4.01364	-0.01364	. * .
4.00000	4.03865	-0.03865	. * .
3.97800	4.28374	-0.30574	* | .
3.97800	4.27742	-0.29942	* | .
4.06400	4.27503	-0.21103	.* | .
4.06400	4.27799	-0.21399	.* | .
4.10600	4.29021	-0.18421	.* | .
3.87500	4.23529	-0.36029	*. | .
3.87500	4.25885	-0.38385	*. | .
3.87500	4.28685	-0.41185	*. | .
3.87500	4.30602	-0.43102	* . | .
3.87500	4.32729	-0.45229	* . | .
4.01900	3.88990	0.12910	. |* .
4.01900	3.90110	0.11790	. |* .
4.01900	3.91124	0.10776	. |* .
4.01900	3.92315	0.09585	. |* .
4.01900	3.91532	0.10368	. |* .
3.90300	4.10190	-0.19890	.* | .
3.90300	4.10530	-0.20230	.* | .
3.95400	4.10884	-0.15484	.* | .
4.00000	4.11141	-0.11141	. *| .
4.04100	4.12999	-0.08899	. *| .

International Journal of Academic Research in Business and Social Sciences
2017, Vol. 7, No. 9
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3.87500	3.66736	0.20764	. | *.
3.87500	3.71790	0.15710	. | *.
3.87500	3.71328	0.16172	. | *.
3.87500	3.75949	0.11551	. |* .
3.87500	3.69017	0.18483	. | *.
3.94000	3.94915	-0.00915	. * .
3.94000	3.89888	0.04112	. * .
3.94000	3.89534	0.04466	. |* .
3.94000	3.92539	0.01461	. * .
3.94000	3.90913	0.03087	. * .
4.30100	4.42901	-0.12801	. *| .
4.32400	4.42007	-0.09607	. *| .
4.45600	4.41291	0.04309	. * .
4.39600	4.39195	0.00405	. * .
4.39600	4.38565	0.01035	. * .
3.74000	3.91435	-0.17435	.* | .
3.77800	3.91435	-0.13635	. *| .
3.81300	3.84481	-0.03181	. * .
3.84500	3.87142	-0.02642	. * .
3.87500	3.61092	0.26408	. | *
3.81300	3.63441	0.17859	. | *.
3.84500	3.63631	0.20869	. | *.
3.90300	3.66309	0.23991	. | *
3.87500	3.59993	0.27507	. | *
3.87500	3.56893	0.30607	. | *
3.87500	4.02438	-0.14938	.* | .
3.87500	4.02780	-0.15280	.* | .
3.87500	4.04730	-0.17230	.* | .
3.87500	4.04008	-0.16508	.* | .
3.87500	4.01875	-0.14375	.* | .
3.60200	3.76652	-0.16452	.* | .
3.60200	3.66679	-0.06479	. *| .
3.74400	3.54868	0.19532	. | *.
3.77800	3.75598	0.02202	. * .
3.81600	3.83967	-0.02367	. * .
4.94000	4.88943	0.05057	. |* .
4.94000	4.91728	0.02272	. * .
4.94000	4.97977	-0.03977	. * .
4.94000	4.99362	-0.05362	. *| .
4.94000	4.98264	-0.04264	. * .
4.78200	4.63573	0.14627	. | *.
4.78200	4.61914	0.16286	. | *.

4.78200	4.61629	0.16571	. | *.
4.78200	4.57294	0.20906	. | *.
4.78200	4.57051	0.21149	. | *.
4.96700	4.93099	0.03601	. * .
5.03700	4.92159	0.11541	. |* .
6.03100	4.92061	1.11039	. | . *|
6.03100	4.91495	1.11605	. | . *|
6.03100	4.92421	1.10679	. | . *|
4.26100	4.37717	-0.11617	. *| .
4.27900	4.41383	-0.13483	. *| .
4.26900	4.39136	-0.12236	. *| .
4.27900	4.37677	-0.09777	. *| .
4.27900	4.34430	-0.06530	. *| .
3.77800	3.98927	-0.21127	.* | .
3.77800	3.98108	-0.20308	.* | .
3.77800	3.94532	-0.16732	.* | .
3.77800	3.92395	-0.14595	.* | .
3.77800	3.91643	-0.13843	. *| .
4.40000	4.42815	-0.02815	. * .
4.41600	4.41064	0.00536	. * .
4.46300	4.42228	0.04072	. * .
4.65000	4.41317	0.23683	. | *
4.65000	4.39904	0.25096	. | *
3.87500	3.91858	-0.04358	. *| .
3.87500	3.90345	-0.02845	. * .
3.87500	3.90139	-0.02639	. * .
3.90300	3.90698	-0.00398	. * .
3.94000	3.89252	0.04748	. |* .
3.92900	4.16600	-0.23700	* | .
3.92900	4.13520	-0.20620	.* | .
3.92900	4.12302	-0.19402	.* | .
3.92900	4.10652	-0.17752	.* | .
3.92900	4.10991	-0.18091	.* | .
3.87500	3.87805	-0.00305	. * .
3.87500	3.90660	-0.03160	. * .
3.90300	3.91717	-0.01417	. * .
3.92900	3.92648	0.00252	. * .
3.76300	3.91224	-0.14924	.* | .
3.87500	3.85610	0.01890	. * .
3.95400	3.87468	0.07932	. |* .
3.95400	3.83561	0.11839	. |* .
3.95400	3.81039	0.14361	. | *.

3.95400	3.85038	0.10362	|	. |* . |
4.21700	4.34645	-0.12945	|	. *| . |
4.21700	4.34654	-0.12954	|	. *| . |
4.24300	4.35977	-0.11677	|	. *| . |
4.24300	4.36903	-0.12603	|	. *| . |
4.24300	4.35548	-0.11248	|	. *| . |
4.17600	4.25536	-0.07936	|	. *| . |
4.14600	4.25974	-0.11374	|	. *| . |
4.10600	4.34803	-0.24203	|	* | . |
4.54400	4.35768	0.18632	|	. | *. |
4.54400	4.36992	0.17408	|	. | *. |

The amongst line is the fitted line (regression/ estimated/ predicted line), the residual is the difference between the actual and fitted amounts. In the right of this line are plus residuals, but in the left the minus residuals. When sum up got zero on average. This residual produce most of the problem in the regression. It should be manipulate to become a favourable model. This residual should not be serially correlated, and should be normally distributed.

5.3.1.1 Correlation of residual value

Table 2. Breusch-Godfrey Serial Correlation LM Test:

F-statistic	68.74413	Prob. F(2,145)	0.0000
Obs*R-squared	73.00565	Prob. Chi-Square(2)	0.0000

Dependent Variable: RESID
Least Squares
09/17/17 at 22:50
Sample: 1 150
Observations: 150
Presample missing value lagged residuals set to zero.

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.029420	0.168588	0.174512	0.8617
X1	-2.05E-05	0.001149	-0.017808	0.9858
X2	-0.003927	0.022911	-0.171382	0.8642
RESID(-1)	0.798884	0.082051	9.736481	0.0000
RESID(-2)	-0.159926	0.082403	-1.940765	0.0542

R-squared	0.486704	Mean dependent var	7.14E-16
Adjusted R-squared	0.472544	S.D. dependent var	0.237763

S.E. of regression	0.172678	Akaike info criterion	-0.642008
Sum squared resid	4.323580	Schwarz criterion	-0.541653
Log likelihood	53.15059	Hannan-Quinn criter.	-0.601237
F-statistic	34.37206	Durbin-Watson stat	2.033587
Prob(F-statistic)	0.000000		

Due to the probability value is 0.0000 which is less than 0.05, so reject null hypotheses, which is: Residuals are not correlated, means not serially correlated, and accept the alternative hypothesis which is: Residuals are correlated, so the residuals for these model have auto correlation problem, or residuals are serially correlated, which is not favourable.

5.3.1.2 Variance of the residual

Table 3. Heteroskedasticity Test: Breusch-Pagan-Godfrey

F-statistic	7.774112	Prob. F(2,147)	0.0006
Obs*R-squared	14.34795	Prob. Chi-Square(2)	0.0008
Scaled explained SS	66.07384	Prob. Chi-Square(2)	0.0000

Dependent Variable: RESID^2
Least Squares
Date: 09/17/17 Time: 22:58
Sample: 1 150
Observations: 150

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.565060	0.162721	-3.472571	0.0007
X1	-0.000899	0.001109	-0.810805	0.4188
X2	0.084617	0.022114	3.826372	0.0002

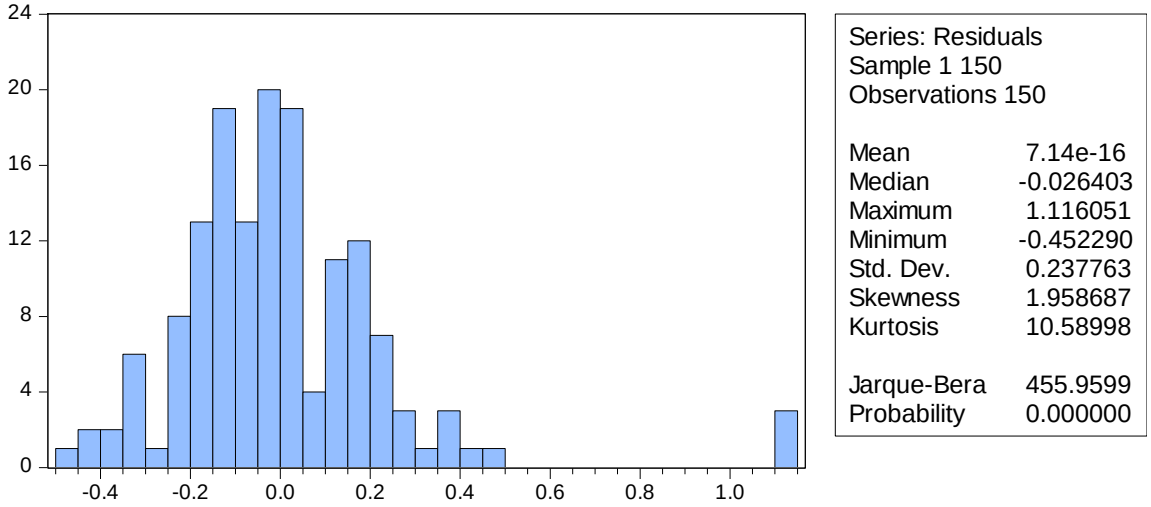
R-squared	0.095653	Mean dependent var	0.056155
Adjusted R-squared	0.083349	S.D. dependent var	0.174480
S.E. of regression	0.167051	Akaike info criterion	-0.721243
Sum squared resid	4.102165	Schwarz criterion	-0.661031
Log likelihood	57.09325	Hannan-Quinn criter.	-0.696781
F-statistic	7.774112	Durbin-Watson stat	0.734127
Prob(F-statistic)	0.000617		

Due to the probability value is 0.000617 which is less than 0.05, so not accept the null hypothesis, which is: Variance of the residual is homoscedastic, and accepts the alternative

hypothesis which is: Variance of the residual is hetroskedastic, but hetroskedasticity is not favourable.

5.3.1.3 Residual distribution

Figure 3: Residual distribution



Due to the probability value is 0.0000 which is less than 0.05, so reject the null hypothesis, which is: Residual follows normal distribution, and accepts the alternative hypothesis, which is: Residual is not normally distributed, which is not favourable, and this is a bad indicator for this model.

5.3.2 Hypotheses Testing

Table 4.

Dependent Variable: External Audit Fees
Least Squares
09/17/17 at 22:11
Sample: 1 150
Observations: 150

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.277606	0.233171	1.190567	0.2357
X1	-0.002910	0.001589	-1.831492	0.0691
X2	0.520010	0.031689	16.40997	0.0000

R-squared	0.674241	Mean dependent var	4.097387
Adjusted R-squared	0.669809	S.D. dependent var	0.416578
S.E. of regression	0.239375	Akaike info criterion	-0.001771
Sum squared resid	8.423175	Schwarz criterion	0.058441
Log likelihood	3.132852	Hannan-Quinn criter.	0.022691
F-statistic	152.1268	Durbin-Watson stat	0.622278

Prob(F-statistic)	0.000000

While R-squared is 0.674241 more than 0.60 meaning that the data of this model is fitted strongly, it means that 0.674241 percent variation in the external audit fees can be interpreted jointly by return on asset (ROA), and firm size, the reminder percent variation in external audit fees can be interpreted by residuals or other variables other than return on asset (ROA), and firm size.

H_{11}: There is no significant effect of return on asset (ROA) of listed Jordanian Manufacturing firms on External Audit Fees.
While the probability value of the first independent variable X1 (return on asset (ROA)) is 0.0691 more than 0.05 means that the return on asset (ROA) discretely cannot significantly affect the dependent variable external audit fees. So can accept the null hypotheses, and not accept the alternative hypotheses There is no significant effect of return on asset (ROA) of listed Jordanian Manufacturing firms on External Audit Fees.

H_{21}: There is no significant effect of size of listed Jordanian Manufacturing firms on External Audit Fees.
While the probability value of the second independent variable X2 (firm size) is 0.0000 less than 0.05 means that the firm size discretely can significantly affect the external audit fees. So cannot accept the null hypotheses, and accept the alternative hypotheses there is a significant effect of size of listed Jordanian Manufacturing firms on External Audit Fees.

H_{01}: There is no significant effect of Profitability and size of listed Jordanian Manufacturing firms on External Audit Fees.
While the probability (F-statistics) is 0.000000 less than 0.05, meaning that return on asset (ROA) and firm size simultaneously can significantly affect Earnings quality, means that leverage and profitability are jointly significant variables to explain the external audit fees. So cannot accept the null hypotheses, and accept the alternative hypotheses there is a significant effect of Profitability and size of listed Jordanian Manufacturing firms on External Audit Fees.

5.3 Johansen Cointegration Test

Table 5.

09/18/17 at 17:26
Sample (adjusted): 6 150
Observations: 145 after adjustments
Trend assumption: Linear deterministic trend
Series: Y X1 X2
Lags interval (in first differences): 1 to 4

Unrestricted Cointegration Rank Test (Trace)

Hypothesized No. of CE(s)	Eigenvalue	Trace Statistic	0.05 Critical Value	Prob.**
None *	0.188497	53.35790	29.79707	0.0000
At most 1 *	0.086228	23.07219	15.49471	0.0030
At most 2 *	0.066621	9.996879	3.841466	0.0016

Trace test indicates 3 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegration Rank Test (Maximum Eigenvalue)

Hypothesized No. of CE(s)	Eigenvalue	Max-Eigen Statistic	0.05 Critical Value	Prob.**
None *	0.188497	30.28570	21.13162	0.0020
At most 1	0.086228	13.07531	14.26460	0.0764
At most 2 *	0.066621	9.996879	3.841466	0.0016

Max-eigenvalue test indicates 1 cointegrating eqn(s) at the 0.05 level
* denotes rejection of the hypothesis at the 0.05 level
**MacKinnon-Haug-Michelis (1999) p-values

Unrestricted Cointegrating Coefficients (normalized by b'*S11*b=I):

Y	X1	X2
-5.045823	-0.056888	3.928928
-0.713113	-0.099893	-0.049710
-3.216524	0.068925	0.209143

Unrestricted Adjustment Coefficients (alpha):

D(Y)	0.010817	0.026462	0.052082
D(X1)	0.572594	3.448740	-0.694863
D(X2)	-0.101410	0.066738	0.047392

1 Cointegrating Equation(s): Log likelihood -554.0243

Normalized cointegrating coefficients (standard error in

parentheses)

Y	X1	X2
1.000000	0.011274	-0.778649
	(0.00475)	(0.07143)

Adjustment coefficients (standard error in parentheses)

D(Y)	-0.054582	
	(0.09793)	
D(X1)	-2.889208	
	(5.33768)	
D(X2)	0.511696	
	(0.15873)	

2 Cointegrating Equation(s): Log likelihood -547.4866

Normalized cointegrating coefficients (standard error in parentheses)

Y	X1	X2
1.000000	0.000000	-0.852905
		(0.09115)
0.000000	1.000000	6.586295
		(5.40870)

Adjustment coefficients (standard error in parentheses)

D(Y)	-0.073453	-0.003259
	(0.09819)	(0.00222)
D(X1)	-5.348550	-0.377080
	(5.16741)	(0.11657)
D(X2)	0.464104	-0.000898
	(0.15753)	(0.00355)

Table 5. indicates in test 1 Trace Statistics at none which means there is no cointegration among variables , due to the probability value is 0.0000 which is less than 0.05, so reject the null hypotheses, which is: there is no cointegrated equation, so have to check at most 1 which means there is at least one cointegration, due to the probability value is0.0030 which is less than 0.05, so reject the null hypotheses, which is: there is one cointegrated equation, also have to check at most 2 1which means there is at least two cointegrations, due to the probability value is0.0030 which is less than 0.05, so due to the probability value is0.0016 which is less than 0.05, so reject the null hypotheses, which is: there is two cointegratied equations

Also, **table 5.** Indicates in test 2 Max-Eigen Statistics at none which means there is no cointegration , due to the probability value is 0.0020 which is less than 0.05, so reject the null hypotheses, which is: there is no cointegrated equation, while at most 1which means there is at least one cointegration, due to the probability value is 0.0764 which is more than 0.05, so accept the null hypotheses, which is: there is one cointegration, meanings all variables; return on asset (ROA), firm size, external audit fees have a long run associations, so no need to check the next level. Thus, when the variables are cointegrated, so can run vector error correction model

5.4 Vector Error Correction Model VECM

Table 6: Vector Error Correction Estimates
09/18/17 at 17:48
Sample (adjusted): 4 150
Observations: 147 after adjustments
Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1
Y(-1)	1.000000
X1(-1)	0.001284 (0.00385) [0.33322]
X2(-1)	-0.607931 (0.06294) [-9.65894]
C	0.368809

Error Correction:	D(Y)	D(X1)	D(X2)
CointEq1	-0.245339 (0.09274) [-2.64538]	3.350341 (5.18667) [0.64595]	0.312666 (0.15141) [2.06500]
D(Y(-1))	0.106145 (0.11358) [0.93451]	0.726668 (6.35223) [0.11440]	-0.127745 (0.18544) [-0.68888]
D(Y(-2))	0.028635 (0.11492) [0.24918]	-2.770477 (6.42691) [-0.43107]	-0.217474 (0.18762) [-1.15913]

D(X1(-1))	-0.000676	-0.402972	-0.002018
	(0.00162)	(0.09042)	(0.00264)
	[-0.41820]	[-4.45649]	[-0.76429]
D(X1(-2))	9.37E-05	-0.214344	0.000372
	(0.00161)	(0.08998)	(0.00263)
	[0.05823]	[-2.38209]	[0.14157]
D(X2(-1))	-0.052546	1.035744	0.097537
	(0.07564)	(4.23022)	(0.12349)
	[-0.69468]	[0.24484]	[0.78983]
D(X2(-2))	0.025000	1.572092	0.177120
	(0.07553)	(4.22401)	(0.12331)
	[0.33100]	[0.37218]	[1.43638]
C	0.002849	0.239549	0.002974
	(0.01915)	(1.07095)	(0.03126)
	[0.14878]	[0.22368]	[0.09511]
R-squared	0.066701	0.151523	0.042241
Adj. R-squared	0.019701	0.108794	-0.005991
Sum sq. resids	7.487558	23418.57	19.95747
S.E. equation	0.232093	12.97994	0.378918
F-statistic	1.419160	3.546127	0.875784
Log likelihood	10.23950	-581.2916	-61.81703
Akaike AIC	-0.030469	8.017572	0.949892
Schwarz SC	0.132275	8.180317	1.112636
Mean dependent	0.003163	0.162150	0.003333
S.D. dependent	0.234414	13.74940	0.377788
Determinant resid covariance (dof adj.)		0.596766	
Determinant resid covariance		0.504541	
Log likelihood		-575.4701	
Akaike information criterion		8.196872	
Schwarz criterion		8.746135	

Is D(X1(-2)) significant to explain D(Y)? Or is D(X2(-1)) significant to explain D(X2)?..., etc, the answer depending on getting p-values for all. We have eight coefficients, but we have 3 models,

means that each model has eight coefficients, the total should twenty-four coefficients, meaning twenty-four p-values, because each variable has one coefficient.

D(Y) = C(1)*(Y(-1) + 0.00128409204113*X1(-1) - 0.607930772066*X2(-1) + 0.368808622969) + C(2)*D(Y(-1)) + C(3)*D(Y(-2)) + C(4)*D(X1(-1)) + C(5)*D(X1(-2)) + C(6)*D(X2(-1)) + C(7)*D(X2(-2)) + C(8)

D(X1) = C(9)*(Y(-1) + 0.00128409204113*X1(-1) - 0.607930772066*X2(-1) + 0.368808622969) + C(10)*D(Y(-1)) + C(11)*D(Y(-2)) + C(12)*D(X1(-1)) + C(13)*D(X1(-2)) + C(14)*D(X2(-1)) + C(15)*D(X2(-2)) + C(16)

D(X2) = C(17)*(Y(-1) + 0.00128409204113*X1(-1) - 0.607930772066*X2(-1) + 0.368808622969) + C(18)*D(Y(-1)) + C(19)*D(Y(-2)) + C(20)*D(X1(-1)) + C(21)*D(X1(-2)) + C(22)*D(X2(-1)) + C(23)*D(X2(-2)) + C(24)

Table 7: Least Squares
09/18/17 at 18:09
Sample: 4 150
Observations: 147
Total system (balanced) observations 441

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.245339	0.092742	-2.645380	0.0085
C(2)	0.106145	0.113584	0.934511	0.3506
C(3)	0.028635	0.114919	0.249176	0.8033
C(4)	-0.000676	0.001617	-0.418205	0.6760
C(5)	9.37E-05	0.001609	0.058229	0.9536
C(6)	-0.052546	0.075640	-0.694683	0.4876
C(7)	0.025000	0.075529	0.331004	0.7408
C(8)	0.002849	0.019150	0.148784	0.8818
C(9)	3.350341	5.186667	0.645953	0.5187
C(10)	0.726668	6.352232	0.114396	0.9090
C(11)	-2.770477	6.426912	-0.431074	0.6666
C(12)	-0.402972	0.090424	-4.456489	0.0000
C(13)	-0.214344	0.089982	-2.382086	0.0177
C(14)	1.035744	4.230220	0.244844	0.8067
C(15)	1.572092	4.224014	0.372180	0.7099
C(16)	0.239549	1.070949	0.223679	0.8231
C(17)	0.312666	0.151412	2.065001	0.0395
C(18)	-0.127745	0.185438	-0.688882	0.4913
C(19)	-0.217474	0.187618	-1.159132	0.2471
C(20)	-0.002018	0.002640	-0.764293	0.4451
C(21)	0.000372	0.002627	0.141565	0.8875

C(22)	0.097537	0.123491	0.789833	0.4301
C(23)	0.177120	0.123310	1.436384	0.1516
C(24)	0.002974	0.031264	0.095113	0.9243

Determinant residual covariance	0.504541

Equation: D(Y) = C(1)*(Y(-1) + 0.00128409204113*X1(-1) - 0.607930772066*X2(-1) + 0.368808622969) + C(2)*D(Y(-1)) + C(3) *D(Y(-2)) + C(4)*D(X1(-1)) + C(5)*D(X1(-2)) + C(6)*D(X2(-1)) + C(7) *D(X2(-2)) + C(8)
Observations: 147

R-squared	0.066701	Mean dependent var	0.003163
Adjusted R-squared	0.019701	S.D. dependent var	0.234414
S.E. of regression	0.232093	Sum squared resid	7.487557
Durbin-Watson stat	1.982548		

Equation: D(X1) = C(9)*(Y(-1) + 0.00128409204113*X1(-1) - 0.607930772066*X2(-1) + 0.368808622969) + C(10)*D(Y(-1)) + C(11) *D(Y(-2)) + C(12)*D(X1(-1)) + C(13)*D(X1(-2)) + C(14)*D(X2(-1)) + C(15)*D(X2(-2)) + C(16)
Observations: 147

R-squared	0.151523	Mean dependent var	0.162150
Adjusted R-squared	0.108794	S.D. dependent var	13.74940
S.E. of regression	12.97994	Sum squared resid	23418.57
Durbin-Watson stat	2.085018		

Equation: D(X2) = C(17)*(Y(-1) + 0.00128409204113*X1(-1) - 0.607930772066*X2(-1) + 0.368808622969) + C(18)*D(Y(-1)) + C(19) *D(Y(-2)) + C(20)*D(X1(-1)) + C(21)*D(X1(-2)) + C(22)*D(X2(-1)) + C(23)*D(X2(-2)) + C(24)
Observations: 147

R-squared	0.042241	Mean dependent var	0.003333
Adjusted R-squared	-0.005991	S.D. dependent var	0.377788
S.E. of regression	0.378918	Sum squared resid	19.95747
Durbin-Watson stat	2.016345		

Table 7. indicates through Last Squares test, that for any coefficient while p-value is less than 0.05, so the variable is significant, meaning reject the null hypothesis, otherwise not.

6. Conclusion

Audit pricing services have been a significant subject that worries many researchers to have put through them by investigating the kind of determinants that influence the audit fees (Apadore, 2016).

This work aimed to came into view the effect of Profitability measured by return on asset (ROA), and size (measured by taking natural logarithm of total assets) of listed Jordanian Manufacturing firms on External Audit Fees (measured by taking natural logarithm of audit fees amount).

The data and variables analysis outputs appeared that return on asset (ROA) discretely cannot significantly affect the dependent variable external audit fees. So can accept the null hypotheses, and not accept the alternative hypotheses there is no significant effect of return on asset (ROA) of listed Jordanian Manufacturing firms on External Audit Fees. Also, the firm size discretely can significantly affect the external audit fees. So cannot accept the null hypotheses, and accept the alternative hypotheses there is a significant effect of size of listed Jordanian Manufacturing firms on External Audit Fees. And finally, return on asset (ROA) and firm size simultaneously can significantly affect Earnings quality, means that leverage and profitability is jointly significant variables to explain the external audit fees. So cannot accept the null hypotheses, and accept the alternative hypotheses there is a significant effect of profitability and size of listed Jordanian Manufacturing firms on External Audit Fees. The previous results are in agreement with (Castro et al., 2015), (Kikhia, 2014), and (Hallak and Silva, 2012).

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