

# Effects of Assets Structure on the Financial Performance: Evidence From Sultanate of Oman

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The main objective of this study is to examine the effects of assets structure (fixed assets and current assets) on the financial performance of some manufacturing companies listed on Muscat Securities Market (MSM). The methodology of the study is content analysis of annual reports of a sample of 28 out of 70 (40%) companies for the period 2008-2012. The assets structure is measured by fixed assets turnover and current assets turnover while the financial performance is measured by return on assets (ROA) and return on equity (ROE). The study examines two main hypotheses. The first one examines the effects of total assets turnover on ROA whereas the second one examines the effects of total assets turnover on ROE. The overall result for the study is that the structure of assets does not have a strong impact on profitability in terms of ROE. This result means that if the structure of assets is changing then the ROA will not change. Another result of the study indicates that only the fixed assets have impact on ROE unlike ROA. Another result of the study suggests that the effect of asset structure has an impact on ROE only in petro-chemical sector.

*Keywords:* assets structure, fixed assets turnover, current assets turnover, return on assets (ROA), return on equity (ROE)

The manufacturing companies depending on the structure of assets consist of two types of assets, fixed and current assets. The manufacturing companies use fixed assets to transfer the raw materials into finished goods. These assets are called property, plant, and equipments include land, building, equipments, automobiles, and furniture. In 2012, the investments in fixed assets at large and medium-sized companies made 96.4% of the level of 2008 investments (Lzryadnova, 2013, p. 27). The growth rate of fixed capital in Sultanate of Oman is 10.5% for 2010 and the increase in fixed assets in the petro-chemical is 35% for 2012. Therefore, there is increasing importance of fixed assets to generate profit in the manufacturing companies. Sometimes, these companies accumulate a higher percentage of current assets, the second type of assets. In this case, there is an essential question concerning the role of fixed assets and current assets in generating the profit.

This question is very important in the industrial sector in Sultanate of Oman because most of the manufacturing companies have a destroyed assets structure. Some of these companies have a higher percentage of fixed assets and a low percentage of current assets and vice versa; where the percentage of current assets is higher than the percentage of fixed assets. This means that the contribution of current assets is greater than the contribution of fixed assets to generate the net profit. This contribution is measured by assets turnover (current

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turnover and fixed turnover). In this regard, most of Omani manufacturing companies do not have intangible assets.

Most of results of the previous studies are mix. Some studies indicate positive associations, others negative associations and several studies conclude that there is no correlation between assets structure and profitability. In Sultanate of Oman, there is no evidence about the impact of assets structure on the profitability of the manufacturing companies. This is because most of these companies do not have an assets structure that reflects their nature. In other words, no one can distinguish this nature through its assets structure. The importance of this study is derived from the importance of assets in operating activities to generate profit. Accordingly, it is very important to study the assets structure and its role in the financial performance for the Omani manufacturing companies.

The study attempts to answer the following questions: What is the effect of fixed assets turnover and current assets turnover on financial performance in a sample of manufacturing companies in Sultanate of Oman?

The main objective of this study is to examine the effects of assets structure (fixed assets and current assets) on the financial performance of some manufacturing companies listed on Muscat Securities Market (MSM). The methodology of the study is content analysis of annual reports of a sample of 28 out of 70 companies for the period 2008-2012. The assets structure is measured by fixed assets turnover and current assets turnover while the financial performance is measured by return on assets (ROA) and return on equity (ROE).

The study consists of six sections. In the current section, the study presents the introduction including the aims of the study and the hypotheses. The assets structure is discussed in the second section. The third section presents the literature review. In the fourth section, the study presents the model, data, and methodology used in the study. Section five provides results of the analysis and finally section six presents the summary and conclusions.

# **Assets Structure in the Manufacturing Companies**

In concept statement No.6, Financial Accounting Standards Board (FASB) defined assets as "probable future economic benefits obtained or controlled by a particular entity as a result of past transactions or events" (Financial Accounting Standards Board [FASB], 1985). Typically, assets are divided into two categories: tangible assets and intangible assets. Fixed assets and current assets are composing the tangible assets. Intangible assets have distinct conditions according to accounting standards. Therefore, most of the assets presented in the balance sheet for the companies are tangible assets (fixed and current). In this context, assets structure is a group of assets (tangible) holding by the firm to establish and expand its business. This study refers to assets structure as a combination of fixed assets and current assets holding by the manufacturing companies. The assets structure is very important for many reasons.

Firstly, the firms cannot start or/and expand without assets because they need assets to produce their products. These assets measure the ability of the firms to survive and compete with other firms (Reyhani, 2012). On the other hand, there is a strong relationship between the structure of assets and structure of capital. The firm cannot borrow the money without a strong assets structure and the creditors prefer the tangible assets when they decide to lend money to others (Campello & Giambona, 2010). The firms hold the assets because there is no effective rental market to sell or buy these assets. Some companies hold assets (especially fixed assets)

because there is a tax advantage for economic growth and technology development purposes (Dong, Charles, & Cai, 2012).

Traditionally, there is a positive relationship between manufacturing companies and fixed assets because the nature of these companies required a high percentage of fixed assets to transfer the raw materials into finished goods. Aguzzi and Payne (2007) refer to this fact that many industries in the mining sector have a "massive growth" in fixed assets. In this case, the assets structure in the manufacturing companies tends to increase investment in fixed assets and decrease the investment in current assets. Moreover, the massive growth in fixed assets should lead to increase the profit because the utilization of these assets means more products and sales (Kantudu, 2008).

#### **Literature Review**

The relationship among management efficiency, investment in assets, and profitability has much more interest in the finance and accounting literature. These literatures explain the role of assets structure in generating profitability and the appropriate size of investment in the assets.

Li (2004) examines the negative association among capital investments (fixed assets), future profitability, and stock returns. The study analyzed the financial statements for the firms from 1962 to 2002. The result showed the negative association between investment and future profitability is robust to scaling of investment and conservative accounting effects.

Demir (2005) examines the relations among higher risks, uncertainty, and competition for 172 manufacturing firms in Turkey from 1993 to 2003, investment in financial assets or fixed assets, and impact of them on the profitability. He concludes that increasing short-term financial investments are found to reduce the negative effects of risk, volatility, and higher interest rates at a significant level while the increasing uncertainty, country risk and real interest rates have a significantly negative effect on manufacturing firm profitability.

Iqbal and Mati (2012) examine the relationship between noncurrent assets and firm's profitability of the companies which are non financial firms. Multiple regression analysis has been utilized to find out the effects of noncurrent on profitability. It is concluded that there is an association between non-current asset and firm's profitability.

Dong et al. (2012) studied the level of fixed assets and risk-adjusted performance. They found that firms with a higher level of fixed asset holding and overhead expenses and covered by preferential tax policies in China are found to be associated with lower risk-adjusted performance.

Okwo, Okelue, and Nweze (2012) assess the impact of a company's investment in fixed assets on its operating profit margin. The study is based on a sample for companies in the Nigerian brewery sector for a period from 1999 to 2009. They used regression statistical method to examine the relationship between level of investment in fixed assets and its impact on the operating profit. The study concluded that there is a positive relationship between the variables, but it is not statistically significant. Therefore, the result did not suggest any strong positive impact of investment in fixed assets on the operating profit of brewery firms in Nigeria.

Dhillon and Vachhrajani (2012) examine the impacts of operational efficiency on overall profitability of Gujarat Industries Power Company Limited (GIPCL), based on published data during June 2005 to November 2010. They used the activity ratios such as assets turnover to measure the operational efficiency and overall profitability. The finding of the research indicates that there is an insignificant positive correlation between operational efficiency and overall profitability.

Reyhani (2012) measures the effect of assets structure on the performance of accepted companies of Tehran Stock Exchange (TSE) through some industries. He defined the assets structure by fixed assets and variable assets as independent variables and EBIT (Earnings before Interest and Taxes) as a dependent variable. The findings of the study revealed that the fixed assets have a significant positive effect on EBIT. Also, the effect of these variables on EBIT among various industries is not same.

Jamali and Asadi (2012) studied the relationship between the management efficiency and profitability of 13 auto manufacturing companies listed on the Bombay Stock Exchange for the period from 2006 to 2010. The assets turnover was one of the most important ratios used in measuring the management efficiency. The finding of study is that there is a high degree of correlation between profitability and management efficiency.

Kotšina and Hazak (2012) examine the impact of investment intensity measured by the percentage of fixed assets to total assets and the return on assets. The sample of the study is 8,074 companies in six European Union (EU) member states over a nine year period from 2001 to 2009. The finding of the study indicates that there is no any strong negative (or positive) impact of companies' investment intensity on future rate of return on assets.

Ishmael and Kehinde (2013) examine the effects of components of current assets on the profitability in the Ajaokuta Iron Industry. The study concluded that there are different proportions of current assets in the industry (for example there are a huge amount of current assets in receivables, cash, and bank). The results raveled that the profitability analysis of Ajaokuta Iron Industry has shown an upward trend in the period 2001-2010.

Azadi (2013) examines the effects of changes in assets (fixed and current) on accepted operating earnings in the Tehran Stock Exchange. The study uses squares (OLS) in order to investigate these effects. Results showed that, for food and metal industries, the coefficient of variation of fixed assets has positive and significant effect on operating earnings. For chemical industries, the coefficient of variation of current assets did not have a significant effect on operating earnings. Another result of the study suggests that the effect of asset structure changes has a significant difference on operating assets and among different industries.

#### **Hypotheses Development and Study Methodology**

#### **Hypotheses Development**

The fixed assets are considered to have the productive capacity in the manufacturing companies which are used to generate sales and profit. On the other hand, these assets are considered as the base to generate and accumulate the current assets (Iqbal & Mati, 2012). The manufacturing companies focus on the current assets because they convert these assets into cash to finance the operating activities (Ishmael & Kehinde, 2013). In this area, these assets are playing a vital role to produce the profit. This role can be measured by ROA and ROE. The first one measures the net income generated from each currency unit invested in total assets and the second one indicates how well managers of the company have used resources of shareholders to produce the net income.

To measure the efficiency of assets in generating the profit, the assets management ratios are used. These ratios are referred to as asset utilization or asset efficiency ratios, measure a firm's ability to manage the assets at its disposal. The ratios include the accounts receivable turnover ratio, inventory turnover ratio, fixed asset turnover ratio, and the total asset turnover ratio (Baker & Powel, 2005, p. 56). In general, there are three types of turnover, assets turnover, fixed assets turnover, and current assets turnover. These turnovers and profitability ratios are calculated as in the following equations:

Total Assets Turnover (TAT) = 
$$\frac{\text{Sales}}{\text{Total Assets}}$$
 (1)

Current Assets Turnover (CAT) = 
$$\frac{\text{Sales}}{\text{Current Assets}}$$
 (2)

Fixed Assets Turnover (FAT) = 
$$\frac{\text{Sales}}{\text{Fixed Assets}}$$
 (3)

Return on Assets (ROA) = 
$$\frac{\text{Net Income After Tax}}{\text{Total Assets}}$$
 (4)

Return on Equity (ROE) = 
$$\frac{\text{Net Income After Tax}}{\text{Equity}}$$
 (5)

Total assets turnover measures the efficiency with which total assets are utilized. The high ratio indicates high efficiency of total assets to generate a sale.

Current assets turnover is an indicator of how efficiently the current assets are utilized. High ratio indicates high efficiency of the current assets (Ishmael & Kehinde, 2013, p. 34).

Fixed assets turnover ratio indicates how effectively a firm's management uses its net fixed assets to generate sales. High ratio indicates high efficiency of the fixed assets (Baker & Powel, 2005).

The logic of using assets management ratios is that the companies employ assets to generate sales and profit, and for this reason, the efficiency of assets should be judged in relation to sales (Dhillon & Vachhrajani, 2012). For example, a high fixed assets turnover indicates efficient utilization of fixed assets in generating sales while a low ratio indicates inefficient management of fixed assets (Okwo et al., 2012). Therefore, the hypotheses of the study are as follows:

H1: The total assets turnover (TAT), the fixed assets turnover (FAT), and current assets turnover (CAT) do not have an impact on ROA.

H2: The total assets turnover (TAT), the fixed assets turnover (FAT), and current assets turnover (CAT) do not have an impact on ROE.

#### **Study Methodology**

The data for the study is taken from the financial statements of the manufacturing companies listed on the website of MSM.

The study is based upon the convenient sampling among the registered manufacturing companies by MSM. The financial statements for 28 out of 70 (40%) were analyzed, and the statistical analysis concluded the results of the study. Sample size was taken on the analyzed past five years' (2008-2012) financial statements as well as balance sheets of MSM 70 index all manufacturing companies. These companies are divided into more than one sector, but this study deals with some of them: food industries sector, chemical industries sector, and construction sector. In the first one, there are 23 companies, in the second one, there are seven companies, and in the last one, there are 10 companies. The total is 40 companies.

Unfortunately, some financial statements are missing (for one or more years) for some companies on the website of MSM and the companies itself. Therefore, this study analyses only 28 out of 40 financial statements (70%) as follows: 14 companies of food industries sector, five companies of chemical industries sector, and nine companies of construction sector.

In order to achieve the objective of the study, the total assets turnover, fixed assets turnover, current assets

turnover, ROA, ROE were calculated of the sample for the period from 2008 to 2012.

Multiple regression analysis has been used for the analysis of the results because the research has to find out the association and the relationship of total assets turnover, fixed assets turnover, and current assets turnover as independent variables, ROA and ROE as the dependent variables.

#### **Results and Discussions**

#### Calculate the Turnovers, ROA, and ROE

The TAT, FAT, and CAT as independent variables, ROA and ROE as dependent variables were calculated for a period 2008-2012. These primarily results will be used to test the hypotheses of the study.

### Results on the Level of All Manufacturing Companies

The first hypothesis examines the impact of the TAT, FAT, and CAT on ROA as in the Model 1.

On one hand, the second hypothesis examines the impact of the TAT, FAT, and CAT on ROE as in the Model 2.

Table 1 showed the correlations between the variables. All correlations among TAT, FAT, CAT, and ROA are insignificant at 5%. On the other hand, as in the Model 2, there are positive significant associations among FAT, TAT, and ROE at 5%, but there is no association between CAT and ROE.

Table 1
Correlations for Two Models

Variables		ROA (Model 1)	ROE (Model2)	
	Pearson correlation	0.212	0.477*	
FAT	Sig. (2-tailed)	0.279	0.010	
	N	28	28	
	Pearson correlation	0.060	0.281	
CAT	Sig. (2-tailed)	0.762	0.148	
	N	28	28	
	Pearson Correlation	0.156	$0.402^{*}$	
TAT	Sig. (2-tailed)	0.429	0.034	
	N	28	28	

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

Table 2 showed the results of regression for two models as follows:

Table 2
The Results of Regression for Two Models

Model	Independent	Dependent	D. адмата	Employe	Cia	Coefficients		
	variables	variable	R-square	F-value	Sig.	Variable	T-value	Sig.
	TAT					TAT	0.432	0.669
1	FAT	ROA	0.062	0.528	$0.668^{a}$	FAT	-0.417	0.680
	CAT					CAT	0.106	0.916
	TAT					TAT	2.241	0.034
2	FAT	ROE	0.234	3.827	$0.035^{a}$	FAT	2.254	0.033
	CAT					CAT	-0.470	0.642

Note. a Predictors: (Constant), TAT, FAT, and CAT.

The result of Model 1 indicates that the TAT, FAT, and CAT do not have impact on ROA at 5%. The F value is greater than the level of significant and this means that the model is statistically insignificant. The R-squared is 0.062 which means that approximately 6.2% of the variance of predictors is accounted for by the model.

It means that if the manufacturing companies increase the total assets, then there will be no impact on ROA. From the forgoing analysis, the first hypothesis is accepted and the companies do not need to make any changes in the assets structure to increase the ROA.

This means that the assets structure does not have an impact on the profitability in terms of ROA in the Omani manufacturing companies.

The result of Model 2 indicates that the F-value is less than the level of significant and this means that the model is statistically significant. The R-squared is 0.234 which means that approximately 23.4% of the variance of predictors is accounted by the model. In this model, only TAT and FAT do have impact on ROE at 5%.

The results of the present study are consistent with similar results reported by Okwo et al. (2012), Kotšina and Hazak (2012) related to fixed assets. The two studies have agreed that the investment in fixed asset does not have any strong and statistical impact on the profitability. The present study has agreed with the studies of Iqbal and Mati (2012), Reyhani (2012), Jamali and Asadi (2012), and Azadi (2013) about the impact of fixed assets on the profitability (in spite of the studies use different dependent variables of profitability). The result of the present study suggests that the companies in the sample are not utilizing assets efficiently in generating the net profit. This result is consistent with the similar result reported by Dhillon and Vachhrajani (2012).

On the other hand, the results of the present study are not consistent with other similar studies. The studies of Demir (2005), Ishmael and Kehinde (2013) did not agree with this study about the impact of current assets. Ishmael and Kehinde (2013) concluded that the changes in current assets have a strong impact on profitability. Unlike the present study, Li (2004) concluded that there is a negative association between fixed assets and profitability.

Now, the study tested the forgoing hypotheses based on the three sectors subject to analysis.

# Results of Three Subsectors: Food Industrial Sector, Construction Sector, and Petro-Chemical Sector Table 3 showed the results of Model 1 to examine the association among TAT, FAT, CAT, and ROA.

Table 3

The Results of Model 1

Sector	Independent variables	R*	Dependent variable	R-square	F-value	Sig.	Coefficients		
							Variable	T-value	Sig.
Food	TAT	0.035	ROA	0.196	0.812	0.516 <sup>a</sup>	TAT	0.846	0.417
	FAT	0.086					FAT	0.100	0.923
	CAT	-0.167					CAT	-0.387	0.707
Construction	TAT	0.796	ROA	-0.096	0.883	0.635 <sup>a</sup>	TAT	0.318	0.804
	FAT	-0.697					FAT	0.174	0.890
	CAT	-0.144					CAT	-0.689	0.616
Petro-chemical	TAT	0.415	ROA	0.474	1.504	0.321 <sup>a</sup>	TAT	0.726	0.500
	FAT	0.525					FAT	0.041	0.969
	CAT	0.212					CAT	-1.124	0.312

Notes. \* All correlations are insignificant at 5% or 1%, a Predictors: (Constant), TAT, FAT, and CAT.

Based on the results mentioned above in Table 3, the correlations among TAT, FAT, CAT, and ROA variables are insignificant. On the other hand, the F-values of the model for all three sectors are insignificant at 5% because the Sigs. of that model are greater than 5%. In this case, there are no any variables have impact on the ROA as in the columns of coefficients.

Turn to Model 2, the association is among TAT, FAT, CAT, and ROE. Table 4 showed the results of correlations and regression for three sectors.

Table 4

The Results of Model 2

Sector	Independent variables	R	Dependent variable	R-square	F-value	Sig.	Coefficients		
							Variable	T-value	Sig.
Food	TAT	0.229	ROE	0.143	0.558	0.655 <sup>a</sup>	TAT	0.797	0.444
	FAT	0.366					FAT	-0.058	0.955
	CAT	-0.012					CAT	-0.172	0.867
Construction	TAT	-0.532	ROE	0.439	0.261	0.855 <sup>a</sup>	TAT	-0.410	0.752
	FAT	-0.426					FAT	0.209	0.869
	CAT	0.075					CAT	0.242	0.849
Petro-chemical	TAT	$0.844^{*}$	ROE	0.833	10.578	0.011 <sup>a</sup>	TAT	4.163	0.004
	FAT	$0.880^*$					FAT	2.911	0.027
	CAT	$0.683^{*}$					CAT	-0.343	0.743

Notes. \* Correlation is significant at the 0.05 level (2-tailed), a Predictors: (Constant), TAT, FAT, and CAT.

In food and construction sectors, it seems that the Model 2 is insignificant at the level 5% and there is no impact of TAT, FAT, and CAT on ROE. This means that the assets structure in these two sectors do not have effects on the maximization of profit for shareholders. On the side of petro-chemical sector, the Model 2 is significant at 5%, but only TAT and FAT have an impact on ROE.

The results of the study have agreed with Iqbal and Mati (2012) about the impact of fixed assets in food sector, whereas this result is not consistent with Azadi (2013) which concluded that the changes in fixed assets are significant in food sector.

Also, the results indicate that there is no impact of assets structure on profitability in the construction sector. This means that the assets (fixed and current) are not utilized efficiently to increase the ROA and ROE.

The above result is consistent with Iqbal and Mati (2012) which concluded that the increase in fixed assets did not lead to increase in ROA and ROE.

The results show that the total assets and fixed assets in the petro-chemical sector have impact on the profitability (ROE) of the companies and the increase in fixed assets is significant for this sector. This means that the investment in fixed assets in petro-chemical sector leads to increase the wealth of shareholders of the companies.

These results are consistent with Reyhani (2012) which concluded that the fixed assets have a positive significant effect on profitability (EBIT) and there is no impact for current assets on the EBIT.

The results of the present study in the chemical sector do not agree with those of Iqbal and Mati (2012), which concluded that there is a negative association among fixed assets, ROA and ROE. There is also a difference between this study and that of Azadi (2013) which concluded that the changes in current assets have a significant effect on profitability (operating earnings) for chemical industries.

## **Summary and Conclusions**

This study aims at examining the effects of assets structure (fixed assets and current assets) on the financial performance (profitability) of some manufacturing companies listed on MSM. The study measures the assets structure by FAT and TAT. The financial performance is measured by profitability by using ROA and ROE. The intangible assets were excluded because most of Omani Manufacturing companies did not have these assets. The financial statements of 28 Omani Manufacturing companies listed on MSM were analyzed for the period from 2008 to 2012 based on two levels; the all companies in the sample and three distinguished sectors in the manufacturing companies: food sector, construction sector, and petro-chemical sector. The total manufacturing companies listed on MSM are 70, but some companies were excluded for many reasons. Firstly, some companies have made losses for five years (period of study). Secondly, some companies did not present their financial statements on the website (their websites and website of MSM). Finally, there are some other sectors consisting of one or two companies such as paper sector, electrical sector, textile sector, and pharmaceutical industries sector. Therefore, and for those reason, the final sample subject to analysis is 28 companies.

In general, the literature review reported in this study, can be divided into three categories. In the first one, the studies concluded that the structure of assets has a significant impact on the profitability. The second one includes the studies which concluded that only one type of assets has impact on the profitability, either fixed assets or current assets. The final one, includes the studies concluded that the structure of asset did not have impact on profitability.

The results of the present study are consistent with the second category of the literature review.

The overall result for the study is that the structure of assets does not have a strong impact on profitability in terms of ROE. This result means that if the structure of assets is changing then the ROA will not change. Another result of the study indicates that, only the fixed assets have impact on ROE unlike ROA. On the other hand, there is not any impact for current assets on ROE and ROA.

Another result of the study suggests that the effect of asset structure has an impact on ROE only in petro-chemical sector. In the food sector and construction sector, the assets structure does not have any impact on ROA and ROE.

One of the most important reasons of the above results is that the assets are not utilized efficiently to generate the profit. Another reason is that the sales and shareholders equity in the Omani manufacturing companies are higher than the assets but the net income is low. Finally, there is a significant difference between the percentage of fixed assets to total assets and percentage of current assets to total assets in the manufacturing companies. Some companies have a higher percentage of fixed assets and other companies have a higher percentage of current assets. Therefore, the structure of assets in the Omani manufacturing companies is inconsistent and the results of the present study suggest that they make a balancing between the components of the structure of assets.

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