

## Staff Efficiency Effects on Financial Performance: A Case Study on Kuwaiti Banks

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### ABSTRACT

*An efficient employee is considered as a valuable asset in any organization, but measuring employee efficiency is not an easy task. This study aims to measure and compare staff efficiency in Kuwaiti banks using the financial performance of the bank as an efficiency proxy. Return on assets (ROA) and return on equity (ROE) are set as dependent variables, and total assets per employee, cost per employee, revenue per employee, number of staff per branch, and total employees' cost to total revenues are set as independent variables. Using panel OLS regression on the data of 10 Kuwaiti banks that are listed at Kuwait stock exchange (KSE) over the period 2010-2018, results showed that total assets per employee, cost per employee, revenue per employee all had a significant direct relationship with both ROA and ROE and only total employees' cost to total revenues showed a significant inverse relationship with the financial performance of the banks. The number of staff per branch was the only variable that had no relation with both ROA and ROE. The model showed that the National bank of Kuwait had the most efficient employees' when it comes to ROA, while Ahli United bank had the most efficient employees' when ROE was used to measure staff efficiency. In both cases, ROA and ROE, Warba bank had the least efficient staff among all banks under study.*

**KEYWORDS:** Employee Efficiency, Financial Performance, Kuwaiti Banks, Return on Assets, Return on Equity, Panel OLS Regression

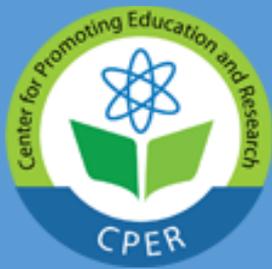
### Introduction

Efficiency and productivity are used to help assess the strengths and weaknesses of any banking system. Therefore, the measurement of efficiency and productivity in the banking sector is crucial for the overall development of the economy. Productivity is defined as the goods and services produced per unit of labor, capital, or both. So basically, productivity is the output per unit of input employed. Productivity is nothing more than outputs divided by the inputs. In the banking sector, productivity is measured by profitability in the form of return on assets (ROA) or return on equity (ROE) since these are the most acceptable ratios in measuring the performance of the bank. Brinda (2013) sees that profitability ratios are the most appropriate measures that can be used bank managers to assess the level of efficiency they carry on their business operations. On the other hand, efficiency is getting the most outputs out of the inputs without compromising the quality of the products or services.

Chakrabarty (2013) stated that banks are typically multi-input and multi-output firms. Where bank inputs are a combination of the performance of staff, capital, and management. She stated that there is a strong inter-linkage between the performances and the three factors of production high productivity of staff will result in efficient utilization of

capital, while an efficient management function would result in superior performance by labor and capital. On the output side, while there are many such as the number of new accounts and the number of loans and others, revenues come at the top desired output due to its high correlation with profitability.

While all input factors are important to the production process, many types of research see that bank staff are the most important factor out of them since it is the only factor that can be improved continually. Barney (1991) sees that staff are a valuable asset to banks and their efficiency and productivity lead to the success of the banks. Highly competent and knowledgeable employees are more able to contribute to bank efficiency and generate revenues and profit. They become assets to banks instead of liabilities. Collins and Porras (1994) believe that bank staff are highly important and are the greatest asset contributing to the success of the bank. Mohd Sultan (2008) suggested that the lack of staff efficiency in banks can lead to deterioration in asset quality. Wanyama and Mutsotso (2010) when studying the effect of worker's efficiency on productivity in Kenyan companies showed a statistically significant direct relation between them. Sufian (2011) and Ismail (2010) concluded that employees' productivity and human capital efficiency are positively and significantly related to bank performance and profitability. They also



showed that the efficiency of bank employees can be improved through constant training and creating a healthy work environment. Tarawneh (2006) studied the effect of bank managers' efficiency on bank profitability in Omani banks and found that well-trained managers tend to be more efficient and were able to generate more revenues for the bank. In studying Kuwaiti banks, Thabet (1997) found that bank personnel efficiency and friendliness of staff were among the main factors affecting customers' choice of bank. Fuentes et al. (2006) emphasized the importance of the employees and

suggested that increasing their awareness about their own potentials can lead to better outcomes from them.

**Methodology**

This study is set to examine the effect of staff efficiency on the financial performance of Kuwaiti banks. The study uses return on assets (ROA) and returns on equity (ROE) as dependent variables while using total assets per employee, cost per employee, revenue per employee, number of staff per branch, and total employees' cost to total revenues as independent variables.

**Table 1. Variables under study**

Variable	Symbol	Equation
Return on Assets	ROA	$\frac{Net\ Income}{Total\ Assets}$
Return on equity	ROE	$\frac{Net\ Income}{Shareholder\ Equity}$
Assets Per Employee	APE	$\frac{Total\ Assets}{Total\ Number\ of\ Employees}$
Cost Per Employee	CPE	$\frac{Total\ Staff\ Cost}{Total\ Number\ of\ Employees}$
Revenue Per Employee	RPE	$\frac{Total\ Revenues}{Total\ Number\ of\ Staff}$
Staff Per Branch	SPB	$\frac{Total\ Number\ of\ Staff}{Number\ of\ Branches}$
Employees Cost to Total Revenues	ECR	$\frac{Total\ Employees\ Cost}{Total\ Revenues}$

In examining the relation between return on assets (ROA) and the independent variables, equation 1, is used as follows;

$$ROA_t = \alpha_t + \beta_1 APE_t + \beta_2 CPE_t + \beta_3 RPE_t + \beta_4 SPB_t + \beta_5 ECR_t + \varepsilon \quad (1)$$

While the relation between return on equity (ROE) and the independent variables is presented in equation 2 as follows;

$$ROE_t = \alpha_t + \beta_1 APE_t + \beta_2 CPE_t + \beta_3 RPE_t + \beta_4 SPB_t + \beta_5 ECR_t + \varepsilon \quad (2)$$

Where  $\varepsilon$  is the error term.

**Data and Empirical Results**

Results from this research are based on the financial ratios of 10 Kuwaiti banks that are listed at Kuwait stock exchange (KSE) over the period 2010 to 2018. The banks under study are AlAhli bank (ABK), Burgan bank (BBK), Commercial bank (CBK), Gulf Bank (GBK), National bank of Kuwait

(NBK), Ahli United Bank (AUB), Boubyan bank (BYK), Kuwait finance house (KFH), Kuwait international bank (KIB), and Warba bank (WBK). The data of the research were obtained from the annual reports of these banks which were downloaded from the Kuwait stock exchange (KSE) website.

Descriptive analysis is presented in table 2, it can be seen that Kuwaiti banks achieved an average 0.93% return on assets (ROA) during the study period, while the achieved 7.39% on return on equity (ROE). The average assets per employee during the period were KWD 5.032 million (1 Kuwaiti dinar = US\$3.33), with an average return per employee of KWD 0.289 million and a cost per employee of KWD 0.036 million. By looking at the kurtosis and the skewness of the data, it can be seen that they fall within the acceptable range of distribution normality which is  $\pm 1.97$  for skewness and  $\pm 10$  for kurtosis.

**Table 2. Descriptive Analysis**

	<i>ROA</i>	<i>ROE</i>	<i>APE</i>	<i>CPE</i>	<i>RPE</i>	<i>SPB</i>	<i>ECR</i>
Mean	0.93%	7.39%	5.032	0.036	0.289	28.958	14.28%
Median	0.97%	7.86%	4.280	0.028	0.227	27.565	12.63%
Standard Deviation	0.51%	3.43%	2.581	0.018	0.170	7.069	5.75%
Kurtosis	2.976	1.044	0.571	-0.514	-0.506	0.281	9.293
Skewness	-0.717	-0.773	1.082	0.986	0.795	0.732	1.670
Count	88	88	88	88	88	88	88

Table 3, shows the average ratios of each bank over the study period. In terms of return on assets (ROA), it can be seen that NBK had the highest mean return of 1.59% followed by AUB with 1.17% while WBK came as the worst performer with an average of -0.05%. When it comes to return on equity (ROE), AUB came at the top with an average ROE of 10.72% followed by NBK with 10.69% while again WBK came at the bottom of the list. NBK had the highest assets per employee among the bank's understudy with an average KWD 9.308 million per employee followed by BBK, while KIB had the lowest assets per employee of only KWD 2.511 million. KFH

had the highest cost per employee of KWD 64,000 compared to the lowest of KWD 22,000 in CBK. BBK showed the highest revenues per employee of KWD 0.572 million while WBK had the lowest of just KWD 0.124 million. While the average number of staff per branch among Kuwaiti banks was 29 employees per branch, KFK was way above the market average with 41 employees per branch while CBK had only 19 employees per branch. When it comes to staff expense to total revenues, the table shows that 27.07% of WBK revenues are consumed by employees' expenses which is much higher than the industry average of 14.57%.

**Table 3. Individual Banks Ratios**

	<i>ROA</i>	<i>ROE</i>	<i>APE</i>	<i>CPE</i>	<i>RPE</i>	<i>SPB</i>	<i>ECR</i>
ABK	1.09%	7.16%	4.607	0.033	0.266	26.579	12.52%
BBK	0.93%	7.91%	9.072	0.062	0.572	26.678	10.76%
CBK	0.89%	6.15%	4.454	0.022	0.245	19.011	8.93%
GBK	0.70%	7.11%	3.575	0.026	0.199	26.157	13.27%
NBK	1.59%	10.69%	9.308	0.056	0.473	33.176	11.88%
AUB	1.17%	10.72%	4.348	0.026	0.207	21.926	12.70%
BYK	0.88%	7.38%	2.757	0.023	0.126	32.467	18.71%
KFH	0.94%	7.79%	6.277	0.064	0.501	41.418	12.74%
KIB	1.00%	6.59%	2.511	0.023	0.136	26.462	17.07%
WBK	-0.05%	0.97%	2.948	0.026	0.124	37.627	27.07%
<b>Mean</b>	<b>0.91%</b>	<b>7.25%</b>	<b>4.986</b>	<b>0.036</b>	<b>0.285</b>	<b>29.150</b>	<b>14.57%</b>

Pearson correlation matrix is used to examine the strength and direction of the relationship between variables. The value of the relationship takes a value between 0 and 1, where the 0 indicates no relationship between the variables and 1 indicating perfect correlation. The sign in front of the number indicates the direction of the relation where (-) indicates an inverse relation and (+) indicates a direct relation.

The correlation matrix is also used to detect any multicollinearity problem in the data which can cause unrealistically high standard error estimates of regression coefficients and at the end can cause false conclusions about the significance of independent variables in the model is evaluated. Using the threshold of 0.70, it can be seen that no multicollinearity problem exists in the data.

**Table 4. Pearson Correlation Matrix**

	ROA	ROE	APE	CPE	RPE	SPB	ECR
ROA	1						
ROE	0.918	1					
APE	0.366	0.378	1				
CPE	0.254	0.275	0.672	1			
RPE	0.309	0.314	0.681	0.697	1		
SPB	-0.205	-0.198	0.089	0.406	0.207	1	
ECR	-0.542	-0.510	-0.481	-0.274	-0.511	0.461	1

Results of the panel OLS regression of equations 1 and 2 are presented in Table 5. It can be seen that both models showed weak explanatory power since the adjusted R square for both models was less than 0.5, but never the less both models can be labeled as a “good fit” since Sig F was less than 0.05 indicating that model 1 can explain 36.2% of the variation in ROA and 35.4% of ROE in model 2. Results show that 4 out of the 5 independent variables had a statistically significant

effect on both ROA and ROE except for the number of staff per branch (SPB) where it did not have any relation none so ever with either ROA or ROE. Results show that total assets per employee (APE), cost per employee (CPE), and revenue per employee (RPE) had a significant direct relationship with both ROA and ROE. On the other hand, staff expense to total revenues (ECR) showed significant inverse relations

**Table 5. Panel OLS Regression Output**

(Model 1) ROA				(Model 2) ROE			
R Square	0.398		F	R Square	0.391		F
Adj R Square	0.362		10.862	Adj R Square	0.354		10.535
Standard Error	0.004		Sig F	Standard Error	0.028		Sig F
Observations	88		0.000	Observations	88		0.000
	Coefficients	t Stat	P-value		Coefficients	t Stat	P-value
Intercept	0.017	6.650***	0.000	Intercept	0.124	7.196***	0.000
APE	0.001	1.787*	0.078	APE	0.006	1.831*	0.071
CPE	0.287	2.741***	0.008	CPE	2.226	3.154***	0.002
RPE	0.043	3.506***	0.001	RPE	0.316	3.782***	0.000
SPB	0.000	0.143	0.887	SPB	0.000	-0.244	0.808
ECR	-0.0716	-5.295***	0.000	ECR	-0.454	-4.981***	0.000

\*, \*\*, \*\*\* indicated significance at the 90%, 95%, and 99% confidence level respectively.

In order to estimate ROA and ROE, the coefficients are plotted into equation 1 and 2. So the prediction models will be equation 3 for ROA and equation 4 for ROE as follows;

$$\widehat{ROA}_t = 0.017 + 0.001APE_t + 0.287CPE_t + 0.043RPE_t - 0.0716ECR_t \quad (3)$$

$$\widehat{ROE}_t = 0.124 + 0.006APE_t + 2.226CPE_t + 0.316RPE_t - 0.4546ECR_t \quad (4)$$

Equations 3 and 4 can be used as a benchmark for the banking industry in Kuwait to examine staff efficiency. Variable SPB (staff per branch) was eliminated from the equations since the coefficient value was 0.

Comparison between actual ROA and ROE and expected ROA and ROE generated from equations 3 and 4 are presented in table 6. In terms of ROA, results show that 5 banks out of the 10 under study beat the benchmark where NBK had the highest positive difference indication that NBK employees were the most efficient workers followed by KIB. On the other hand, WBK was the worst performer followed by GBK. When it comes to ROE, it can be seen from the table that only 4 banks were able to beat the benchmark. AUB was the best performer beating the benchmark by 2.58% followed by BYK. On the flip side, again WBK was the worst performer followed by CBK.

**Table 6. Actual vs. Estimated Comparison Results**

	Act ROA	Exp ROA	Diff	Act ROE	Exp ROE	Diff
ABK	1.09%	1.03%	0.06%	7.16%	7.98%	-0.82%
BBK	0.93%	1.03%	-0.10%	7.91%	8.13%	-0.22%
CBK	0.89%	1.04%	-0.15%	6.15%	7.86%	-1.71%
GBK	0.70%	0.97%	-0.27%	7.11%	7.57%	-0.46%
NBK	1.59%	1.24%	0.35%	10.69%	9.49%	1.20%
AUB	1.17%	1.04%	0.12%	10.72%	8.14%	2.58%
BYK	0.88%	0.76%	0.13%	7.38%	6.17%	1.21%
KFH	0.94%	1.03%	-0.09%	7.79%	7.98%	-0.19%
KIB	1.00%	0.79%	0.21%	6.59%	6.46%	0.14%
WBK	-0.05%	0.28%	-0.34%	0.97%	3.19%	-2.22%

**Conclusion**

This study was set to examine the effect of staff efficiency on the financial performance of 10 Kuwaiti banks listed at Kuwait stock exchange (KSE) over the period 2010 to 2018. By using the return on assets (ROA) and return on equity (ROE) as financial performance proxies and total assets per employee, cost per employee, revenue per employee, number of staff per branch, and total staff cost to total revenues were set as independent variables. Results showed that total assets per employee, cost per employee, and revenue per employee all had a significant direct relationship with both

ROA and ROE and only total staff cost to total revenues showed a significant inverse relationship with the financial performance of the banks. The number of staff per branch was the only variable that had no relation with both ROA and ROE. The models showed that the National bank of Kuwait had the most efficient staff when it comes to ROA, while Ahli United bank had the most efficient employees' when ROE was used to measure staff efficiency. In both cases, ROA and ROE, Warba bank had the least efficient staff among all Kuwaiti banks under study.

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