



# **IMPACT OF EXTERNAL FACTORS ON BANKING PROFITABILITY, COMPARATIVE ANALYSIS OF UK AND USA BANKING SECTOR**

**SUBMITTED BY  
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## **Abstract**

The study examines the impact of the external factors on the banking profitability and comparative analysis of the subjected impact in between USA and UK banking sectors for the time period of 2008-2017. GDP, money supply, inflation and savings used as independent variables while dependent variable is banking profitability ROA. Levin, Lin & Chu  $t^*$ , Im, Pesaran and Shin  $W$ -stat, ADF - Fisher Chi-square and PP- Fisher Chi-square unit root tests are applied for examining the stationary of the variables. The results of the study show that the model as well as results is significant. External factors have a significant impact on ROA of USA and UK banking. External factors have more impact on banking profitability as compared to USA banking sector. These results

suggested that banks needed to improve their profitability through the better management of the external factors at the macro level.

## **Introduction**

Banking sector is one of the most important sectors of the economy (Levine, 2000). Financial institutions and organizations have direct impact on the real economy. The financial sector energizes the savings and allocates the credit across different sector of the d households. So, that they cope with the uncertainties at the economic economy. Banks provide financial services to the firms, companies an level of hedging, sharing, and pooling and risks related to the pricing. An efficient financial sector decreases the cost and the risk of making or producing and trading of the goods and services (Berge, 2009).A simple and rational financial sector makes direct financial movement of funds and transactions between the savers and the investors.Financial intermediaries transform the obligations of shareholders, stakeholders and investors into the obligations offinancial intermediaries (Warde, 2000). The financial sector can enhance and improve both the quality and quantity of a real investment and thereby then increase the income at a per capita level. The financial originations and firmsfor international synchronization of regulations are concerning safety and security, insider swapping and taxation.

The key role of the financial sector in growth at economic level is introduced by (Schumpeter, 1911), argued that the service prerequisite by financial mediators including savings mobilization, risk managing, projects costing, monitoring the managers, and facilitating transactions are essential for technological development and economic development. Financial intermediaries should be capable of competent distribution of resources facilitating in that way higher income and advantageous risk conversion. The new literatures on economic growth were actually started in mid 1950s when Robert Solow (1956) presented his growth model. At that time the center of attention was kept on the working of labor and capital resources rather than financial markets. Goldsmith (1969), McKinnon (1973) and Levine (1993) emphasized that finance can be an important element for the growth of an economy. The key question for the policymakers in less developed economies is how to have a procedure of continued economic growth. Underdeveloped countries have the plan to support financial sector reforms. A better-developed financial system reduces transaction, information and monitoring costs. It increases the efficiency of resource allocation and in turn spurs the growth. A well-developed financial system promotes investment opportunities to potential businesses, mobilizes savings, enables trading, monitors the workings of managers, offers hedging, and diversifies risk (Levine, 1993).

The net profitability of the bank shows how there is a wellbeing done by a bank, but the restriction is that it does not adjust for the bank size. This thing creates the difficulty in comparison that how well a bank is compelling to the second one in such a way the performance and profitability of the bank is represented by the ROA which is Return on assets which corrects the bank size. It is proved that ROA respects the provision of the useful important and necessary information on the profitability of the bank, but this is not on the equity holder's main and major interest (Mishkin, 2009).

### **1.3 Research Objectives**

The present studies have structured objectives formed as follows:

1. To investigate the impact of GDP on banking profitability (ROA) in UK and USA.
2. To investigate the impact of Inflation on banking profitability (ROA) in UK and USA.
3. To investigate the impact of Money Supply on banking profitability (ROA) in UK and USA.
4. To investigate the impact of Savings the impact of on banking profitability (ROA) in UK and USA.

1.

### **1.5 Research Hypothesis**

The study focused on the following hypothesis such that for the

$H_{a0}$ - GDP does not impact the profitability of the banking sector.

$H_{b0}$ - Inflation does not impact the profitability of the banking sector.

$H_{c0}$ - Money supply does not impact the profitability of the banking sector.

$H_{d0}$ - Savings does not impact the profitability of the banking sector.

## LITERATURE REVIEW

Zaman et al., (2011) highlight the factors affecting the banking profitability banking sector from 2005 to 2009. The POLS method was used to find the impact of deposits, GDP and market capitalization on the profitability which included the ROA (Return on assets), ROE (Return on equity), NIM (Net interest margin) and ROCE (Return on capital employed). The results showed that there was a strong influence on the performance and the profitability. The study analyzed that the banks with the more equity capital (assets, loans, macro factors and deposits) perceived to be in big safety and this advantage can be turned into the higher profitability. The results indicated that the performance and the profitability had strong relationship in the case of Pakistan.

Sharma et al., (2016) studied the macroeconomic and bank specific factors affecting the liquidity of Indian banks. OLS model fixed effect and random effect estimates were used and the data 59 Indian banks were used from 2000 to 2013. The bank includes bank size, cost of funding profitability deposits and capital adequacy. Macroeconomic factors included the GDP, inflation, unemployment and market capitalization. Liquidity trend analysis was also performed on the Indian banks based on ownership. The analysis revealed that the liquidity of the banks affected by the bank specific factors excluding cost of fund and external o macroeconomic factors excluding

unemployment significantly had an impact on the bank's liquidity. Furthermore, the size of bank and GDP has a negative effect on the liquidity of the bank. Also, it was revealed that the profitability inflation and deposits had a significant and positive impact on the liquidity, capital adequacy had also a positive and significant effect on the bank's liquidity. There was an insignificant effect of unemployment and the cost of finding on the liquidity of banks in India.

Trujillo et al., (2013) studied about "what determinants the profitability of banks" the study was conducted on the Spanish banking sector. This paper analyzed the variables that affect or determine the level of the profitability and performance of the Spanish banks from the time period of 1999-2009. This study revealed the differences in the performance of the saving and commercial banks. There was no evidence found regarding economics or diseconomies of scale the sample was comprised of the banked saving banks and credit cooperative in the Spanish banking industry in bad a base for the time period of 1999-20019. The sample consisted of 89 banks, which included the 28 commercial 45 savings and rest were belonged to the ROA and ROE for the measurement of the performance and the profitability. GMM estimator was used for the data developed for the dynamic panel models by Blundell and Bond, (1998) and Arellano and Bover, (1995). 697 observations were used in the study. The empirical evidence was provided

by the results that low number of the assets which are poor quality of the balance sheet of the bank was favorable to the profitability. Better capitalized banks were more profitable, however the ratio of equity to total assets increase, decreased the ROE of the banking sector due to the low down of the leverage. There was a positive relationship between the profitability and the concentration of the market. It also concluded that lower quality of loan portfolio and efficiency's low level in composition to commercial banks were detrimental to their output or return.

In the literature reviewed below, we find a number of studies analyzing, and investigating the determinants of bank profitability. Especially, GDP and inflation are used in European countries and the United States of America. While prior and previous research on UK banks has focused mainly on the other side and aspects of bank the performance and profitability. For example, (Drake, 2001) and (Webb, 2003) studied and analyzed the efficiency and working of the United Kingdom banking industry. (Holden and El-Bannany, 2004) investigated and analyzed the significance and importance of information technology, IT developments on the performance and profits of most of the United Kingdom banks.

## CHAPTER 4

### RESEARCH METHODOLOGY

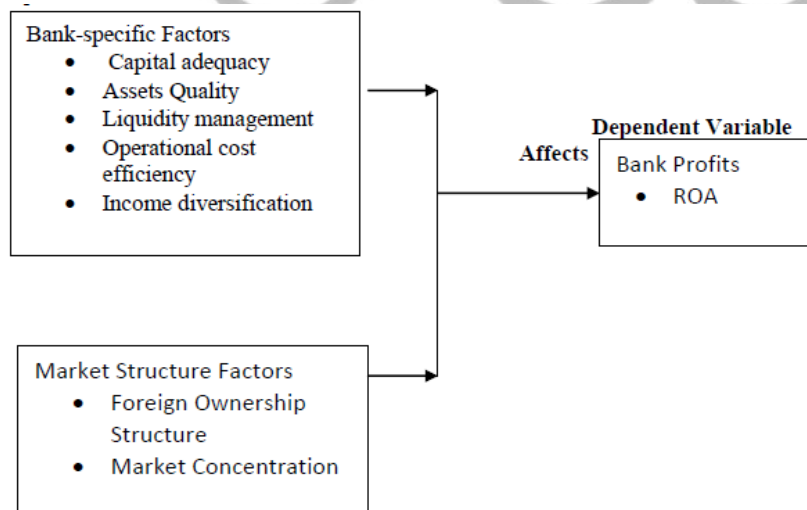
#### 4.1 Theoretical Frame work

The definition of the financial management, financial management is the procedure of companies which intricate with sources of funds, utilize of funds, and proper management of assets appropriate for the company's in general objectives (Gobson, 1992; Fuller, Farrel, 1991; Malone and Jones, 1993; Myers and Majluf, 1984).

#### 4.2 Conceptual Framework

The conceptual schema of the relationship between the dependent and independent variables distilled from the literature review by the researcher is shown in figure 1 below. (T.M Shipho et al., 2011) (K. Zaman et al., 2011)

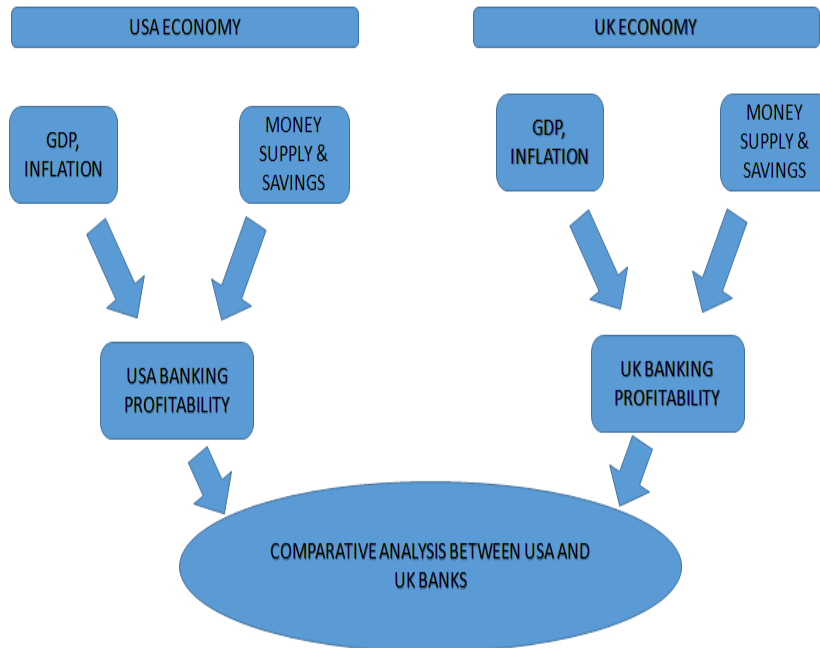
**Figure 1**



Source: Olweny, T., &Shipho, T. M. (2011)



**Figure 2**



Source: Author's Conceptualization

### 4.3 Research Estimated Model

The model is an arrangement of statistical relationship among the variables to display their dependency and impartiality on each other. It finds the connection among the variables in terms of dependent and independent quantities in an equation. The model of present study is as follows:

$$Y_{it} = \beta_1 I_i + \beta_2 X_{2it} + \beta_3 X_{3it} + U_{it}$$

### 4.4 Top 10 Banks of the USA

1	JPMORGAN CHASE & CO.
2	BANK OF AMERICA CORPORATION

3	CITIGROUP INC.
4	WELLS FARGO & COMPANY
5	GOLDMAN SACHS GROUP, INC
6	MORGAN STANLEY BANK
7	U.S. BANCORP BANK
8	BANK OF NEW YORK MELLON CORPORATION
9	SUNTRUST BANK
10	CAPITAL ONE FINANCIAL CORPORATION

#### 4.4 Top 10 Banks of the UK

1	HSBC HOLDINGS
2	LLOYDS BANKING GROUP
3	BARCLAYS BANK
4	ROYAL BANK OF SCOTLAND GROUP
5	STANDARD CHARTERED BANK
6	NATIONAL WESTMINSTER BANK
7	SANTANDER BANK
8	VIRGIN MONEY HOLDINGS BANK
9	THE CO-OPERATIVE BANK
10	TSP BANK

#### **4.5 Research Design**

The main objective of study is to find and evaluate the effects of external economic factors on the banking profitability of banks in USA and UK. This study adopted an explanatory approach by the use of the panel data research design to complete the above objective. The advantage of the using of the panel data is that it control the individual heterogeneity, less co linearity variables and tracks trends in data something which cross sectional and time series data cannot provide. (Baltagi, 2005).

#### **4.6 Research Type**

The type of this research is secondary based research. The researcher uses financial numerical figures for that are derived by the banking and economic sector.

#### **4.7 Data Analysis Techniques**

The OLS model through e-views will be used for the data analysis and then on the result of the analysis, the comparative analysis will be conducted between UK and American Banks having impact of includes inflation, GDP, money supply and savings.

#### **4.8 Research Methodology & Tests**

##### **4.8.1 Unit Root Test**

The data was used in study for the time period 2008-2017 and subjected data is panel data in this study," Panel data relate with individual and also enable us to test various practices in different methods by the combination of time series and cross sectional data, Panel data provide more useful or more consistent data. Panel data also provides better measures than simple time series or cross sectional data.

##### **4.8.2 Panel Estimation Techniques**

###### **4.8.2.1 Pool regression model**

Panel (data) analysis is a statistical method, widely used in social science, epidemiology, and econometrics to analyze two-dimensional

(typically cross sectional and longitudinal) panel data. The data are usually collected over time and over the same individuals and then a regression is run over these two dimensions.

#### **4.8.2.2 Fixed effect model**

In the fixed effect test we assume that effect size is same for all the studies.

#### **4.8.2.3 Random effect model**

In random effect test we assume that effect size varies from study to study.

#### **4.8.2.4 Hausmant effect model**

Hausman tests (Hausman 1978) are tests for econometric model misspecification based on a comparison of two different estimators of the model parameters. The former property ensures that the size of the test can be controlled asymptotically, and the latter property gives the test its power.

### **DATA ANALYSIS**

The main objective of the current study is to examine the impact of external factors on the banking profitability in UK and USA. We have explained the dependent and independent variables along with their proxies.

**Table 5.2: Variables used in Data Analysis as dependent and independent**

Type	Variables	Symbols
Dependent Variables	Return on Assets	ROA

Independent Variables	Gross Domestic Products	GDP
Independent Variables	Inflation	INF
Independent Variables	Money Supply	MS
Independent Variables	Savings	SAVINGS

### USA Data Analysis

This study has applied Levin, Lin & Chu  $t^*$ , Im, Pesaran and Shin W-stat, ADF - Fisher Chi-square and PP- Fisher Chi-square unit root tests for examining the stationary of the variables.

**Table 5.3: Panel unit root test**

Panel unit root test: Summary					
Series: GDP, Inflation, Money Supply, Savings & ROA					
Sample: 2008 2017					
Exogenous variables: Individual effects					
User-specified lags: 1					
Newey-West automatic bandwidth selection and Bartlett kernel					
Balanced observations for each test					
Variables	Test	Statistic	Prob**	Cross-Section	Obs
GDP (At Level)	Levin, Lin & Chu $t$	5.27797	1.0000	10	80
	Im, Pesaran and Shin W-stat	5.30224	1.0000	10	80
	ADF - Fisher Chi-square	0.34131	1.0000	10	80
	PP - Fisher Chi-square	0.07106	1.0000	10	90
GDP (At First Difference)	Levin, Lin & Chu $t$	-34.5888	0.0000	10	70
	Im, Pesaran and Shin W-stat	-14.5427	0.0000	10	70
	ADF - Fisher Chi-square	153.537	0.0000	10	70
	PP - Fisher Chi-square	20.7852	0.4099	10	80

Inflation (At Level)	Levin, Lin & Chu t	-12.5618	0.0000	10	80
	Im, Pesaran and Shin W-stat	-5.30843	0.0000	10	80
	ADF - Fisher Chi-square	71.7938	0.0000	10	80
	PP - Fisher Chi-square	60.8316	0.0000	10	90
Money SUPply (At Level)	Levin, Lin & Chu t	-10.3276	0.0000	10	80
	Im, Pesaran and Shin W-stat	-4.54779	0.0000	10	80
	ADF - Fisher Chi-square	63.3537	0.0000	10	80
	PP - Fisher Chi-square	86.3371	0.0000	10	90
Savings(At Level)	Levin, Lin & Chu t	-2.39944	0.0082	10	80
	Im, Pesaran and Shin W-stat	-0.03417	0.4864	10	80
	ADF - Fisher Chi-square	15.1534	0.7676	10	80
	PP - Fisher Chi-square	5.27943	0.9996	10	90
Savings (At First Difference)	Levin, Lin & Chu t	-4.51677	0.0000	10	70
	Im, Pesaran and Shin W-stat	-1.91106	0.0280	10	70
	ADF - Fisher Chi-square	35.3000	0.0186	10	70
	PP - Fisher Chi-square	36.2813	0.0143	10	80
ROA (At Level)	Levin, Lin & Chu t	-8.27392	0.0000	10	80
	Im, Pesaran and Shin W-stat	-4.07982	0.0000	10	80
	ADF - Fisher Chi-square	59.4734	0.0000	10	80
	PP - Fisher Chi-square	55.0319	0.0000	10	90

\*\* Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

This study analyzed the impact of external factors containing GDP, inflation, money supply and savings on the banking profitability in USA and UK banking sectors. The descriptive statistics of the chosen indicators are given in table 5.3. The summary of the descriptive statistic gives the value of Mean, Median, Maximum, Minimum, Standard Deviation, Skewness and Kurtosis.

**Table 5.4: Descriptive statistics**

	GDP	INFLATION	MONEY SUPPLY	ROA	SAVINGS
Mean	16.09440	1.760000	87.64400	0.844700	17.18000
Median	15.83650	1.600000	88.89500	0.895000	17.57000
Maximum	18.56900	3.800000	91.06000	1.930000	19.27000
Minimum	14.41900	-0.400000	79.45000	-1.340000	14.43000
Std. Dev	1.451783	1.238442	3.432522	0.570414	1.733730
Skewness	0.388973	-0.114124	-1.248180	-0.845887	-0.225830

Kurtosis	1.716590	2.264710	3.605318	4.488376	1.498778
Jarque-Bera	9.384756	2.469784	27.49259	21.15568	10.24027
Probability	0.009165	0.290866	0.000001	0.000025	0.005975
Sum	1609.440	176.0000	8764.400	84.47000	1718.000
Sum Sq.Dev	208.6598	151.8400	1166.438	32.21189	297.5760
Observations	100	100	100	100	100

The table 5.5 gives the results of correlation between the variables. The results show that consumption of GDP have significant and positive correlation with money supply, ROA and savings and negative correlation with inflation over the selected time period. Whereas, inflation has negative and significant correlation with money supply, ROA and savings . The outcomes explain that money supply has positive correlation with savings. ROA has a positive correlation with savings.

**Table5.5: Correlation matrix**

	GDP	INFLATION	MONEY SUPPLY	ROA	SAVINGS
GDP	1.000000				
INFLATION	-0.349598	1.000000			
MONEY SUPPLY	0.608846	-0.646516	1.000000		
ROA	0.298123	-0.055897	-0.011195	1.000000	
SAVINGS	0.863106	-0.170442	0.274953	0.373160	1.000000

In the table 5.6, random effect test, the results shows that p value of independent variable GDP is 0.2778 which is more than 5% means insignificant results and also the p value of inflation is 0.1911 which is more than 5% which show a negative and insignificant correlation among the dependent and independent variables. Money supply showing the negative value and probability of 0.0341 which shows that there is a negative and insignificant correlation between the ROA and money supply. Savings having the positive value but insignificant due to increase of p value more than

5%.The value of R-Squared is 24.04% having the effect of dependent and indecent variables and the value of Adjusted R-Squared is 20.84 represents that there an error term in the external variables. The value of autocorrelation 1.638608 is the Durbin Watson statistic the value is positive and have strong serial correlation between the variables. The overall P value is 0.000026 which is less than 5 % which shows that the model is significant.

**Table 5.7Hausman Test**

Correlated Random Effects - Hausman Test				
Equation: Untitled				
Test cross-section random effects				
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.	
Cross-section random	0.000000	4	1.0000	
* Cross-section test variance is invalid. Hausman statistic set to zero.				
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
GDP	0.099622	0.099622	0.000000	1.0000
INFLATION	-0.060056	-0.060056	0.000000	1.0000
MONEY SUPPLY	-0.051448	-0.051448	0.000000	1.0000
SAVINGS	0.071467	0.071467	0.000000	1.0000
Cross-section random effects test equation:				
Dependent Variable: ROA				
Method: Panel Least Squares				
Sample: 2008 2017				
Periods included: 10				
Cross-sections included: 10				
Total panel (balanced) observations: 100				
WARNING: estimated coefficient covariance matrix is of reduced rank				



Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	2.628322	1.808562	1.453266	0.1498
GDP	0.099622	0.091274	1.091455	0.2781
INFLATION	-0.060056	0.045605	-1.316870	0.1914
MONEY SUPPLY	-0.051448	0.023926	-2.150317	0.0343
SAVINGS	0.071467	0.062898	1.136232	0.2590
CROSSID	NA	NA	NA	NA
Effects Specification				
Cross-section fixed (dummy variables)				
R-squared	0.521172	Mean dependent var	0.844700	
Adjusted R-squared	0.448791	S.D. dependent var	0.570414	
S.E. of regression	0.423495	Akaike info criterion	1.248628	
Sum squared resid	15.42395	Schwarz criterion	1.613352	
Log likelihood	-48.43140	Hannan-Quinn criter.	1.396238	
F-statistic	7.200409	Durbin-Watson stat	1.810091	
Prob(F-statistic)	0.000000			

The hausman test shows that p value is 1.0 which means that probability is more than 5% which results that we accepts the null hypothesis means random effect model is appropriate.

The value of R-Squared is 52.1172% which represents that ROA is changed by 52.1172% by independent variables and Adjusted R-squared value is 44.8791% indicates that 44.8791% error is existed by the external variables.

The p value of overall model is 0.0000 which is less than 5% show the whole model is significant, the value of Durbin Watson Statistics is 1.810091 which shows a positive correlation.

### UK Data Analysis

This study has applied Levin, Lin & Chu t\*, Im, Pesaran and Shin W-stat, ADF - Fisher Chi-square and PP- Fisher Chi-square unit root tests for examining the stationary of the variables.

**Table 5.8: Panel unit root test**

Panel unit root test: Summary					
Series: GDP, Inflation, Money Supply, Savings & ROA					
Sample: 2008 2017					
Exogenous variables: Individual effects					
User-specified lags: 1					
Newey-West automatic bandwidth selection and Bartlett kernel					
Balanced observations for each test					
Variables	Test	Statistic	Prob* *	Cross- Section	Ob s
GDP (At Level)	Levin, Lin & Chu t	-6.31148	0.0000	10	80
	Im, Pesaran and Shin W-stat	-3.56230	0.0002	10	80
	ADF - Fisher Chi-square	52.2392	0.0001	10	80
	PP - Fisher Chi-square	29.9042	0.0714	10	90
Inflation (At First Difference)	Levin, Lin & Chu t	-2.78805	0.0027	10	70
	Im, Pesaran and Shin W-stat	-0.53260	0.2972	10	70
	ADF - Fisher Chi-square	20.3596	0.4356	10	70
	PP - Fisher Chi-square	50.3258	0.0002	10	80
Money Supply (At Level)	Levin, Lin & Chu t	-1.76326	0.0389	10	80
	Im, Pesaran and Shin W-stat	-0.34088	0.3666	10	80
	ADF - Fisher Chi-square	17.7456	0.6042	10	80
	PP - Fisher Chi-square	16.3386	0.6954	10	90
Savings (At Level)	Levin, Lin & Chu t	-17.8736	0.0000	10	80
	Im, Pesaran and Shin W-stat	-9.40859	0.0000	10	80
	ADF - Fisher Chi-square	113.460	0.0000	10	80
	PP - Fisher Chi-square	184.228	0.0000	10	90
ROA (At Level)	Levin, Lin & Chu t	-2.84937	0.0022	10	80
	Im, Pesaran and Shin W-stat	-0.81670	0.2071	10	80
	ADF - Fisher Chi-square	27.2641	0.1280	10	80
	PP - Fisher Chi-square	46.3574	0.0007	10	90

\*\* Probabilities for Fisher tests are computed using an asymptotic Chi-square distribution. All other tests assume asymptotic normality.

**Table 5.9 Descriptive statistics**

This study analyzed the impact of external factors containing GDP, inflation, money supply and savings on the banking profitability in USA and UK banking sectors. The below statistics belongs to the UK economy's external factors and banking sector's ROA.

	<b>SAVINGS</b>	<b>ROA</b>	<b>MONEY SUPPLY</b>	<b>INFLATION</b>	<b>GDP</b>
Mean	13.19200	0.225000	150.9260	3.376000	2.718900
Median	12.82000	0.275000	149.9050	3.600000	2.683000
Maximum	16.05000	2.000000	167.2000	5.200000	3.063000
Minimum	11.78000	-1.630000	137.2200	1.000000	2.367000
Std. Dev	1.158698	0.617276	10.76165	1.275402	0.219294
Skewness	1.304111	-0.343879	0.257401	-0.425297	-0.009720
Kurtosis	4.105991	4.873478	1.651991	2.073479	1.930232
Jarque-Bera	33.441830	16.595550	8.675620	6.591462	4.769922
Probability	0.000000	0.000249	0.013065	0.037041	0.092093
Sum	1319.200	22.50000	15092.60	337.6000	271.8900
Sum Sq.Dev	132.9156	37.72190	11465.49	161.0384	4.760909
Observations	100	100	100	100	100

**Table 5.10 Correlation matrix**

The table 5.10 gives the results of correlation between the variables. The results show that consumption of GDP have significant and positive correlation with money supply, ROA and savings and negative correlation with inflation over the selected time period.

	<b>SAVINGS</b>	<b>ROA</b>	<b>MONEY SUPPLY</b>	<b>INFLATION</b>	<b>GDP</b>
<b>SAVINGS</b>	1.000000				
<b>ROA</b>	0.226353	1.000000			
<b>MONEY SUPPLY</b>	-0.215304	0.024824	1.000000		
<b>INFLATION</b>	0.405862	0.212088	0.686683	1.000000	
<b>GDP</b>	0.561902	0.064797	-0.741276	-0.321766	1.000000

In the table 5.11, random effect test, the results shows that p value of independent variable GDP is 0.6016 which is more than 5% means insignificant results and also the p value of money supply is 0.3302 is more than 5% which show a negative and insignificant correlation among the dependent and independent variables. Inflation showing the positive value and probability of 0.0806 which shows that there is a positive and

insignificant correlation between the ROA and inflation. The value of autocorrelation 1.569402 is the Durbin Watson statistic the value is positive and has strong serial correlation between the variables. The overall P value is 0.000000 which is less than 5 % which shows that the model is significant.

**Table 5.12 HausmanTest**

Correlated Random Effects - Hausman Test				
Equation: Untitled				
Test cross-section random effects				
Test Summary	Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.	
Cross-section random	0.000000	4	1.0000	
* Cross-section test variance is invalid. Hausman statistic set to zero.				
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
SAVINGS	0.040083	0.040083	0.000000	1.0000
MONEY SUPPLY	-0.009287	-0.009287	0.000000	1.0000
INFLATION	0.141104	0.141104	0.000000	1.0000
GDP	-0.010393	-0.010393	0.000000	NA
Cross-section random effects test equation:				
Dependent Variable: ROA				
Method: Panel Least Squares				
Sample: 2008 2017				
Periods included: 10				
Cross-sections included: 10				
Total panel (balanced) observations: 100				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
c	0.649794	2.134334	0.304448	0.7615
SAVINGS	0.040083	0.076493	0.524005	0.6016
MONEY SUPPLY	-0.009287	0.009485	-0.979172	0.3302
INFLATION	0.141104	0.079812	1.767955	0.0806
GDP	-0.010393	0.398518	-0.026080	0.9793

Effects Specification			
Cross-section fixed (dummy variables)			
R-squared	0.533839	Mean dependent var	0.225000
Adjusted R-squared	0.463372	S.D. dependent var	0.617276
S.E. of regression	0.452185	Akaike info criterion	1.379724
Sum squared resid	17.58449	Schwarz criterion	1.744448
Log likelihood	-54.98622	Hannan-Quinn criter.	1.527335
F-statistic	7.575805	Durbin-Watson stat	1.569402
Prob(F-statistic)	0.000000		

The hausman test shows that p value is 1.0 which means that probability is more than 5% which results that we accept the null hypothesis means random effect model is appropriate.

The value of R-Squared is 53.3839% which represents that ROA is changed by 53.3839% by independent variables and Adjusted R-squared value is 46.3372% indicates that 46.3372% error is existed by the external variables.

The p value of overall model is 0.0000 which is less than 5% show the whole model is significant, the value of Durbin Watson Statistics is 1.569402 which shows a positive correlation.

### Comparative Analysis between USA and UK

As from USA data analysis, it is revealed that GDP and savings have positive correlation with ROA while money supply and inflation have negative correlation with ROA. R square with value of 52.11 percent impact of external factors. Durbin Watson value is 1.81 and overall probability value is 0.00000, both values show that model is significant. As from UK data analysis, it is concluded that inflation and savings have positive correlation with ROA while money supply and GDP have negative correlation with ROA. R square with value of 53.38 percent impact of external factors is there on ROA and remaining 47 percent impact is

due to other factors. Durbin Watson value is 1.57 and overall probability value is 0.00000, both values show that model is significant.

## **CONCLUSIONS**

### **Conclusions**

As from USA data analysis, it is revealed that GDP and savings have positive correlation with ROA while money supply and inflation have negative correlation with ROA. R square have strongly impact of external factors is there on ROA and remaining 48percent impact is due to other factors. Durbin Watson value is 1.81 and overall probability value is 0.00000, both values show that model is significant. As from UK data analysis, it is concluded that inflation and savings have positive correlation with ROA while money supply and GDP have negative correlation with ROA. R square strongly impact of external factors is there on ROA and remaining 47percent impact is due to other factors. Durbin Watson value is 1.57 and overall probability value is 0.00000, both values show that model is significant. Resultantly, comparing USA and UK results, it is concluded that UK banking sector have impact of external factors more than that of USA banking sector have, of the external factors.

### **Recommendations**

The recommendation can be specified in this study are as follows:

- The banks can generate more profits by means of the use of the managing debts, use of latest IT software, applying technological tools, cost efficient techniques and standardize the use of external funds in financial operation for profit maximization.
- The extension of research work is also suggested to the next future researcher to use a longer time period for the research.

- The profitability of the bank can also be increased by the effective and efficient management results the productivity of staff causing the banks to be efficient in working in the banking sector.

### **Limitation of Study**

- There are many other factors which impact the banking profitability, so this study can be extended by using some other factors for analysis.
- This study uses only few banks as sample and two countries for analysis, extension can be done by increasing number of countries and banks as well.

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