

EVALUATING THE IMPACT OF INFLATION ON PROFITABILITY OF BANKS

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Abstract

The main purpose of this study is evaluating the impact of Inflation on profitability of banks. The population was the state and private banks in Iran that Information and financial statements was available on their sites. State banks are Tejarat, Mellat and Saderat Banks and private banks are Parsiyan, Pasargadae, Ektesad nowin, Saman, Sina, Tat, Qvamin, Karafarin, Toseeh ans Askariyeh financial institutions. Due to the limited number of banks will be census sampling method. The period of study is between fiscal years 2010 till 2013. In order to analyze the data resulted from collected questionnaires deductive and descriptive statistical methods are used, and to display some statistical data we used column diagram and in deductive level to test the hypothesis of the research and Generalized method of moments is used to estimate the model. The overall reliability of the model is used j-statistic and to test whether all the non-zero coefficients Waled Test is used. The analysis has performed with Eviews. Findings show that the P-value of ROA and Inflation has letter than the .05 so, we can say that the variables have Manayy and Inflation, Nim, Bsize, Liquidity, Taxation, Capitalization, Cost efficiency; Non traction; Concent and BSD have impact on profitability of banks.

Key words: *Inflation, profitability, banks*

Introduction

There is now a substantial body of evidence indicating that sustained—and, therefore, likely predictable—high rates of inflation can have adverse consequences either for an economy's long-run rate of real growth or for its long-run level of real activity (Boyd et al, 2000). A growing theoretical literature describes mechanisms whereby even predictable increases in the rate of inflation interfere with the ability of the financial sector to allocate resources effectively. More specifically, recent theories emphasize the importance of informational asymmetries in credit markets and demonstrate how increases in the rate of inflation adversely affect credit market frictions with negative repercussions for financial sector (both banks and equity market) performance and therefore long-run real activity (Huybens and Smith 1998, 1999). The common feature of these theories is that there is an informational friction whose severity is endogenous (Boyd et al, 2000).

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The banking industry today enjoys a number of advantages compared to past years that would appear to contribute to their ability to generate profits. The banking industry, like any other industry, will experience potential diseconomies to geographic expansion in the form of agency costs associated with monitoring junior managers in a distant locale; however, innovations in information processing and telecommunications may lessen these agency costs by improving the ability of senior managers located at the organization's headquarters to monitor and communicate with staff at distant subsidiaries (Berger & Deyoung, 2006).

Under the efficiency hypothesis, technological progress in the 1990s significantly improved the performance of large, multimarket banks relative to small, single-market banks; therefore, a greater presence of large, multimarket banks exerted more competitive pressure and had more deleterious effects on the performance of small, single-market banks in their markets in the second period, 1991-2000, than in the first period, 1982-90. The more intense competition from large, multimarket banks in the second time period may be manifested in decreased revenues for small, single-market banks (e.g., lower fees or rates on loans, lower fees on deposits) and/or increased expenses (e.g., higher rates on deposits, additional expenses on advertising or quality to retain customers) (Berger, 2007).

Spindler (1990) express that In terms of size, U.S. banks fell consistently throughout the period, especially against their Japanese competitors. The same approximate pattern emerged with respect to revenue growth. (The authors note that while a significant component of this "size effect" is attributable to the decline in the value of the dollar against the yen and other major currencies over the period.) They performed slightly below the sample mean on ROA, well below their Swiss, British, and Japanese counterparts. The same was true of ROE in comparison with Japanese and French banks. In terms of productivity, U.S. banks fell into the middle of the range. On capitalization, U.S. banks were high in the rankings on the first measure cited above, but well behind Japanese, German, and Swiss banks on the second.

According to Athanasoglou and his colleagues (2005), these studies were seminal in demonstrating the feasibility of conducting a meaningful analysis of the determinants of bank profitability, but some of the methods used by these studies failed to take into account the robust and dynamic nature of the economic environment in which they competed. Moreover, the studies to date have primarily considered determinants of profitability at the bank and/ or industry level, with the choice of variables used lacking internal consistency in some instances; in addition, there has been a dearth of research concerning the potential influence of the macroeconomic environment, due in part to the small time dimension of the panels used in the estimation. Other factors that have constrained the research to date include the fact that the econometric methodology used in the study was not adequately described and/or failed to account for some features of bank profits which suggest that the estimates obtained by these studies may have been biased or inconsistent (Scott and Arias ,2011).

According to Goddard and his colleagues (2004), in spite of the growing body of research into determinants of banking profitability, there remains a paucity of studies that have investigated the specific relationship between organizational size and its impact on profitability. These authors report that, "Previous studies of the dynamics of growth on the one hand, and profit on the other, have in the main developed separately, and followed contrasting empirical methodologies. Nevertheless, there are several theoretical arguments to suggest that these two performance indicators are closely related. Moreover, as Cover (1999) emphasizes, the need for identifying determinants of profitability in the banking industry has never been greater: "As banks move into the twenty-first century, they must focus more than ever before on creating new

streams of revenue in order to shareholder value. Crucial to this effort is the need to assess and analyze the profitability of the bank's current customers, relationships, services, and products. It is only through such analyses that banks can determine which customers to fight for, which customer relationships to expand, and which prospective customers to pursue" (p. 78).

Methodology

The population was the state and private banks in Iran that Information and financial statements was available on their sites. State banks are Tejarat, Mellat and Saderat Banks and private banks are Parsiyan, Pasargadae, Ektesad nowin, Saman, Sina, Tat, Qvamin, Karafarin, Toseeh ans Askariyeh financial institutions. Due to the limited number of banks will be census sampling method. The period of study is between fiscal years 2010 till 2013.

In order to analyze the data resulted from collected questionnaires deductive and descriptive statistical methods are used, and to display some statistical data we used column diagram and in deductive level to test the hypothesis of the research and Generalized method of moments is used to estimate the model. The overall reliability of the model is used j-statistic and to test whether all the non-zero coefficients Waled Test is used. The analysis has performed with Eviews.

Before the model, it is required the Manayy of variables to be studied. For this purpose we used LLC Test.

Table 1: shows the Manayy of ROA and Inflation.

Null Hypothesis: Unit root (common unit root process)

Series: ROA

Sample: 2010 2013

Exogenous variables: Individual effects

Automatic selection of maximum lags

Automatic lag length selection based on SIC: 0

Newey-West automatic bandwidth selection and Bartlett kernel

Total (balanced) observations: 39

Cross-sections included: 13

Method		Statistic	Prob.**
Levin, Lin & Chu t*	ROA	-16236.8	0.0000
Levin, Lin & Chu t*	Inflation	7.72800	0.0000

** Probabilities are computed assuming asymptotic normality

Findings show that the P-value of ROA and Inflation has letter than the .05 so, we can say that the variables have Manayy.

Results

Generalized method of moments is used to estimate the model. The overall reliability of the model is used j-statistic and to test whether all the non-zero coefficients Waled Test is used.

Table 2: Panel GMM EGLS

Dependent Variable: ROA

Method: Panel GMM EGLS (Cross-section random effects)

Sample: 2010- 2013

Periods included: 4

Cross-sections included: 13

Total panel (balanced) observations: 52

Cross-section SUR instrument weighting matrix

Wallace and Hussain estimator of component variances

Instrument specification: C INFLATION NIM BSIZE LIQUIDITY TAXATION
CAPITALIZATION COSTEFFICIENCY NONTRACTI CONCENT BSD
Constant added to instrument list

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.018927	0.000447	42.34104	0.0000
INFLATION	-0.016685	0.000146	-114.6116	0.0000
NIM	0.138972	0.000109	1270.794	0.0000
BSIZE	0.005064	2.24E-05	226.2468	0.0000
LIQUIDITY	-0.031038	0.000142	-218.8888	0.0000
TAXATION	-0.020479	0.000140	-146.4416	0.0000
CAPITALIZATION	-0.014686	0.000192	-76.56268	0.0000
COSTEFFICIENCY	-0.235347	0.001626	-144.7325	0.0000
NONTRACTI	-0.001152	6.75E-06	-170.7014	0.0000
CONCENT	-0.040797	0.000512	-79.64724	0.0000
BSD	-1.234068	0.036636	-33.68427	0.0000
Effects Specification				
			S.D.	Rho
Cross-section random			0.010901	0.6860
Idiosyncratic random			0.007375	0.3140
Weighted Statistics				
R-squared	0.717439	Mean dependent var		0.006353
Adjusted R-squared	0.648521	S.D. dependent var		0.012792
S.E. of regression	0.007584	Sum squared resid		0.002358
Durbin-Watson stat	2.191647	J-statistic		1.090019
Instrument rank	11			
Unweighted Statistics				
R-squared	0.500770	Mean dependent var		0.019827
Sum squared resid	0.006643	Durbin-Watson stat		1.757271

Conclusion

The results of Unweighted Statistics this model R-squared is equal to 0.500 which shows that between Inflation and profitability of banks, there is a strong correlation. Also the amount of determined coefficient is equal to 0.000 which shows that independent variable of Inflation is able to determine and explain the 50 percent of changes of dependent variable of profitability of banks. The Durbin-Watson test is 1.75 and is between 1.5 and 2.5.

The results of Weighted Statistics this model R-squared is equal to 0.717 which shows that between Inflation and profitability of banks, there is a strong correlation. Also the amount of determined coefficient is equal to 0.000 which shows that independent variable of Inflation is able to determine and explain the 71.7 percent of changes of dependent variable of profitability of banks. The Durbin-Watson test is 2.19 and is between 1.5 and 2.5. and J-statistic 1.090019.

Findings show that Inflation, Nim, Bsize, Liquidity, Taxation, Capitalization, Cost efficiency, Non traction, Concent and BSD have impact on profitability of banks.

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