JPB REVIEW
INTERNATIONAL JOURNAL OF PROFESSIONAL BUSINESS REVIEW
ISSN: 2525-3654
OPEN ACCESS

IMPROVING WORKING CAPITAL SOLVENCY OF ISLAMIC BANKS UNDER MACROECONOMIC VARIABLES

Bader Mustafa Mahmoud Al Sharif[A], Sufian Radwan Al-Manaseer[B], Zaher Abdel Fattah Al-Slehat[C]

ARTICLE INFO

Article history:

Received 29 May 2023

Accepted 23 August 2023

Keywords:

Working Capital Solvency;
Macroeconomic Variables;
Islamic Banks.

ABSTRACT

Purpose: The aim of this paper examines the impact of macroeconomic variables: public debt growth, inflation, money supply, balance of payments, and unemployment rate on the solvency of the working capital of Islamic banks in Jordan.

Theoretical framework: The financial ratio index is used by Alhayali and Albutma (1996) to compare total Assets to equity and assess whether the owners have enough rights to keep investing in fixed assets. we couldn't determine the type of relationship of macroeconomic factors on capital solvency.

Design/Methodology/Approach: The study analyzed multiple linear regression data of economic variables and performance data in Islamic banks during the period 2005-2021.

Findings: The findings demonstrated that economic parameters, with the exception of money supply, are negatively correlated with the solvency of working capital (return on assets, return on deposits, and capital adequacy ratio). And the balance of payments has a positive effect.

Research, practical & social implications: The researcher suggested that the government should reduce the growth rates of public debt, inflation, and unemployment rate, Increasing the balance of payments and the money supply through the establishment of projects that are characterized by labor, and are financed through Islamic banks.

Originality/Value: The improvement of working capital comes as a result of an increase in projects, which in turn will lead to an increase in employment, cash flow, an improvement in exports, and the balance of payments, a decrease in unemployment, and inflation, and thus an improvement in the capacity of working capital.

Doi: https://doi.org/10.26668/businessreview/2023.v8i8.1346

MELHORAR A SOLVÊNCIA DO CAPITAL DE GIRO DOS BANCOS ISLÂMICOS SOB VARIÁVEIS MACROECONÔMICAS

RESUMO

Objetivo: O objetivo do presente documento analisa o impacto das variáveis macroeconômicas: crescimento da dívida pública, inflação, oferta de moeda, balança de pagamentos e taxa de desemprego sobre a solvência do capital de giro dos bancos islâmicos na Jordânia.

[A] *PhD in Economic & Islamic Banks. Associate Professor. Business Economics Department, Faculty of Business, Tafila Technical University. Jordan. E-mail: bader.alsharif99@gmail.com*
Orcid: https://orcid.org/0000-0002-4325-6730
[B] *PhD in Finance. Associate Professor. Business Economics Department, Faculty of Business, Tafila Technical University. Jordan. E-mail: sufian.r.manaseer@gmail.com Orcid: https://orcid.org/0000-0002-0457-0479*
[C] *PhD in Finance. Associate Professor. Business Economics Department, Faculty of Business, Tafila Technical University. Jordan. E-mail: zalabadi@yahoo.com Orcid: https://orcid.org/0000-0003-4544-4097*

Estrutura teórica: O índice de razão financeira é usado pela Alhayali e Albutma (1996) para comparar o total de Ativos com o patrimônio líquido e avaliar se os proprietários têm direitos suficientes para continuar investindo em ativos fixos.
Concepção/Metodologia/Abordagem: O estudo analisou vários dados de regressão linear de variáveis econômicas e dados de desempenho em bancos islâmicos durante o período 2005-2021.
Conclusões: As conclusões demonstraram que os parâmetros econômicos, à exceção da oferta de moeda, estão negativamente relacionados com a solvência do capital de exploração (rendimento dos ativos, rendimento dos depósitos e rácio de adequação dos fundos próprios). E a balança de pagamentos tem um efeito positivo.
Pesquisa, implicações práticas e sociais: O pesquisador sugeriu que o governo deveria reduzir as taxas de crescimento da dívida pública, inflação e taxa de desemprego, aumentando a balança de pagamentos e a oferta de dinheiro através do estabelecimento de projetos que são caracterizados pelo trabalho, e são financiados por bancos islâmicos.
Originalidade/Valor: A melhoria do capital de exploração resulta de um aumento nos projetos, o que por sua vez levará a um aumento no emprego, fluxo de caixa, uma melhoria nas exportações e na balança de pagamentos, uma diminuição no desemprego e inflação, e, portanto, uma melhoria na capacidade do capital de exploração.

Palavras-chave: Solvência do Capital de Giro, Variáveis Macroeconômicas, Bancos Islâmicos.

MEJORA DE LA SOLVENCIA DEL CAPITAL CIRCULANTE DE LOS BANCOS ISLÁMICOS BAJO VARIABLES MACROECONÓMICAS

RESUMEN
Objetivo: El objetivo de este trabajo es examinar el impacto de variables macroeconómicas como el crecimiento de la deuda pública, la inflación, la oferta monetaria, la balanza de pagos y la tasa de desempleo sobre la solvencia del capital de trabajo de los bancos islámicos en Jordania.
Marco teórico: El índice de ratio financiero es utilizado por Alhayali y Albutma (1996) para comparar el total de Activos con el patrimonio y evaluar si los propietarios tienen suficientes derechos para seguir invirtiendo en activos fijos.
Diseño/Metodología/Enfoque: El estudio analizó datos de regresión lineal múltiple de variables económicas y datos de desempeño en bancos islámicos durante el período 2005-2021.
Hallazgos: Los hallazgos demostraron que los parámetros económicos, con excepción de la oferta monetaria, están negativamente correlacionados con la solvencia del capital circulante (rendimiento de los activos, rendimiento de los depósitos y ratio de adecuación del capital). Y la balanza de pagos tiene un efecto positivo.
Investigación, implicaciones prácticas y sociales: El investigador sugirió que el gobierno debería reducir las tasas de crecimiento de la deuda pública, la inflación y la tasa de desempleo, aumentando la balanza de pagos y la oferta de dinero a través del establecimiento de proyectos que se caracterizan por la mano de obra, y se financian a través de los bancos islámicos.
Originalidad/Valor: La mejora del capital circulante se produce como resultado de un aumento de los proyectos, lo que a su vez dará lugar a un aumento del empleo, el flujo de caja, una mejora de las exportaciones y la balanza de pagos, una disminución del desempleo y la inflación, y por lo tanto una mejora de la capacidad del capital circulante.

Palabras clave: Solvencia del Capital de Trabajo, Variables Macroeconómicas, Bancos Islámicos.

INTRODUCTION

Islamic financial institutions first appeared at the beginning of Islamic history, when Prophetic hadiths and Qur'anic verses forbade usury trading and prohibited exploitation, monopoly, and transactional fraud. One of the most significant indicators of the development of the Islamic economy, which is a vital aspect of constructing and supporting the national economy, is the general public's interest in Islamic banks, particularly among Muslims. It provides the necessary finance, investments, and financial services to enable people,

organizations, and governments to achieve the optimal size of working capital, that is, the optimal size of current assets that can be quickly converted into cash during the fiscal period or the optimal size of the difference between current assets and current liabilities. Adequacy indicators frequently control total deposits, assets, liabilities, and property rights to optimize earnings while lowering risks.

Capital represents the ability of working capital to establish safety and durability in banks' financial centers and thus achieve a high level of stability in the banking industry. Capital is the reinforced shield that protects depositors' money from unforeseen losses. By increasing the solvency of the capital, the spread of confidence in the bank's performance and distribution of banking services is increased. This amount of capital must be as small as possible for the remainder to be invested in the bank's profit-making processes, which means the bank's ability to meet all of its obligations at any given time (Abad-Gonzalez, 2018).

As a result, maintaining the integrity of regulations and the soundness of Islamic banks' positions is dependent in part on whether operating capital is adequate. It refers to a barrier that prevents any unforeseen loss to which the bank may be exposed from influencing depositors' money. The capital adequacy requirement was one of several indicators of solvency established by the Basel committee in this context. However, the standard had numerous flaws, prompting the Basel committee to revise it in Basel 2 and, finally, in Basel 3 in June 2011(Basle 3, 2011).

The most important of these are, first, the indicator of deposit return from equity, i.e., the bank's ability to cover is withdrawn from the bank's capital, and the percentage of deposits must not be less than Equity to total deposits of 10%, which were proposed indicators to measure solvency that was adopted in this study to improve the bank's ability to absorb shocks (Sultan, 1989). Second, the equity-to-total-assets ratio is not optimal, and the equity index evaluates the bank's ability to meet its needs regardless of its resources. The larger the ratio, the greater the implication. This is due to the bank's strong financial position. The financial ratio index is used by Alhayali and Albutma (1996) to compare Total Assets to Equity and assess whether the owners have enough rights to keep investing in fixed assets (Fouad, 1995).

LITERATURE REVIEW

A summary of the studies that dealt with the issue of the solvency of working capital and macroeconomic variables will be presented, arranged according to the date of their publication, newest and oldest, as follows:

Alsharif (2023) examined the impact of macroeconomic variables (economic growth, public debt growth, inflation, foreign direct investment, and balance of payments) on the performance of Islamic banks (return on assets, return on equity, and return on equity). The study used multiple linear regression analyses of periodic data for Jordanian Islamic banks in Jordan during the period (2007-2021). The findings demonstrated a positive correlation between macroeconomic factors and performance, except for foreign direct investments, which have a negative effect on performance because they require the use of external financial resources.

Hussain et al. (2021) explored the interaction effect of macroeconomic indicators and working capital management on financial performance in a very developing economy. Using the static and dynamic approach to panel analysis, it's been shown that there's a relationship between the components of working capital management (net income, and the duration of money transfer). Second, while interest rates used as an interaction variable with average paydays have negative effects, the company's performance will decline if interest rates increase. There's a negative relationship between the gross profit margin within the simple regressive rate of exchange and also the cash conversion cycle while using the second interaction variable with the cash conversion cycle, which has positive effects.

Dahiyat et al. (2021) studied the impact of liquidity and solvency management on the financial performance of Jordanian manufacturing companies listed on the Amman Stock Exchange from 2010 to 2019. Company size was used as a control variable. The study uses return on assets (ROA) and earnings per share (EPS) to measure financial performance. The current ratio and total debt to total assets were used as proxies for managing liquidity and solvency, and correlation analyses and multiple regression were applied to analyze the data. While the results indicate that there is a significant negative impact of solvency on performance. In light of the results, the study suggests increasing investments in corporate assets by focusing on internal financing.

Anggraeni et al. (2021) found out whether liquidity, non-performing assets, sensitivity, and efficiency have an impact on the profitability and capital of Indonesian state-owned banks. A random sample of public banks was used for the period from 2014 to 2019. According to the results of this study, liquidity had a significant positive effect on capital but had no significant effect on profitability. The quality of productive assets as indicated by the ACA and NPL ratios did not affect profitability or capitalization. Or in terms of efficiency, that is, in the event of an economic recession, the liquidity ratio is high, and thus economic factors have an adverse effect

on solvency. Both Open Educational Resources and FBIR had a significant impact on profitability and capital.

Andhika et al. (2021) determined the extent to which CAR, NPL, BOPO, Management Assessment, ROA, and ROE influence the amount and distribution of credit. The study used time series data for financial statements published for 54 rural banks in North Sumatra, Indonesia from 2016 to 2019, and also used Chow and Hausman tests. The results showed that non-performing loans, management valuation, and return on equity had a significant impact on the amount of credit, while CAR, OEOI, and ROA variables had a negative effect on credit distribution. The results also indicated that banks with a high rate of non-performing loans, management valuation, and return on equity are more aggressive in controlling working capital.

Nguyen (2020) conducted a study on the financial statements of 38 economic groups listed on the Vietnamese stock market for the period 2009 - 2019 and aims to provide empirical evidence on the impact of working capital management policy on performance at all stages of the economic cycle of the Vietnamese economy. The study uses the FGLS estimation method with two dependent variables, ROA and GOP, independent variables including INV, AR, AP, and CCC, and a dummy variable representing different stages of the economic cycle. The results showed the negative effects of the economic crisis on the performance of economic groups. The study also shows that the number of short-term asset cycles has a positive impact on operational efficiency, and the level of debt utilization has a negative impact on operational efficiency.

The effect of asset management on the performance of Iranian industrial enterprises was explored by Soukhakian and Khodakarami (2019), with a focus on the function of inflation and GDP variables. This study uses an ordinary method of the least squares with coverage from 2010-2016. The results show that the cash conversion cycle is negatively associated with the return on assets and also the refined quantity added. That is, the shorter the time between spending for the acquisition of raw materials and, therefore the collection of receivables on goods sold, the upper the performance. However, macroeconomic variables are positively and significantly associated with the return on assets, but only inflation is significantly associated with the return on assets and refined quantity added. Moreover, macroeconomic factors don't modify the link between working capital management and company performance.

Akbar et al. (2018) looked at the effect of macroeconomics, capital structure, and liquidity on bank performance. This study uses a quantitative method approach to realize the objectives and answer the research questions and test the hypothesis that has been developed,

The population during this study is foreign banks listed in the 2007-2016 period, as many as 10 banks (cross-section), The results show that there's a big influence of the macroeconomic factor, capital structure and liquidity on the performance of foreign banks in Indonesia (return on assets), and therefore the rate incorporates a significant impact on the return on equity.

Abad-Gonzalez et al. (2018) attempted to find the determinants of banking solvency in the European Union. The endogenous variable is defined as the capital ratio determined by stress tests. Both internal (financial ratios and sovereign debt exposures) and external (macroeconomic indicators) variables are proposed as covariates. The results reveal that capitalization, earnings, asset structure, and exposure to PIIGS (Portugal, Italy, Ireland, Greece, and Spain) sovereign debt are significant among the former, and economic growth, interest and exchange rates, and real estate prices among the latter.

Widyastuti et al. (2017) examined the influence of capital management and three macroeconomic variables (inflation, interchange rate, and interest rates) on the worth of ten Indonesian Textile Companies from the years 2005-2014. The study used path analysis techniques to investigate data. Supported statistical analyses, it had been observed that the exchange rate and interest rate significantly affected the performance and, therefore, the value. Moreover, the performance wasn't mediated by the effect of the cash conversion cycle, assets turnover, and inflation on the company's value, but it successfully mediated the effect of investment structure, financing structure, liquidity, interchange rate, and interest rates on the company's value.

Yenice and Sedat (2015) investigated the link between capital and macroeconomic variables. Therefore, data for 128 companies that were traded on the Istanbul stock market from 2003 to 2013 were examined, and therefore the level of capital, return on capital, and also the cash transfer cycle was used as dependent variables. Macroeconomic variables like inflation, export index, import index, exchange rate, and charge per unit were used. And therefore, the stock market index, GDP, and gold prices as independent variables. The results of the research show that the extent of assets is impacted quite others by the exports index and also the exchange index; The return on assets is significantly influenced by the import index and also the securities market index; The cash conversion cycle, which represents assets management, is affected most by the benchmark interest rate, gold prices, and exchange rate.

Celik et al. (2015) investigated how changes in macroeconomic data affected the networking capital of businesses. For this purpose, it's been calculated net capital of the commercial market by using its sectoral balance sheet which was issued by the financial

organization of the Turkish Republic for the period 1996-2014. Later it's been determined positive and negative trends of the sector's net capital by years and modeled for inflation, exchange rates, and interest rates, and also the results showed that macroeconomic variables don't affect the online capital of the economic market.

Zhang and Daly (2015) examined the impact of bank-specific, macroeconomic, financial variables, and globalization on the performance of Chinese banks from 2004 to 2010. The results indicate that banks with lower credit risk, which are well-capitalized, tend to be more profitable, Macroeconomic variables indicate that financial services in China tend to grow in tandem with the process. Our results also indicate that greater economic integration through increased trade and capital in-flows coincides with increased bank profitability. Likewise, firms remain at their current levels of assets, and thus there's no effect of economic factors on assets.

Abbadi and Abbadi (2013) developed an econometric model and standards were estimated and supported by panel data for 11 industrial firms for eight years (2004-2011). The study found that the cash conversion cycle, return on assets, and operating income are determinants and positively correlated with asset requirements, while leverage and firm size are important but negatively correlated with working capital requirements. On the other hand, economic variables rather like the speed of interest and real GDP rate of growth haven't got much effect on capital. These results are in line with several previous studies for other countries like Jordan, Brazil, Pakistan, India, Greece, Thailand, Cyprus, and the land.

Corugedo et al. (2011) first documented the behavior of working capital within the United Kingdom. To understand the results of capital on macroeconomic variables, the DSGE model was used, which presents a transparent role for the components of capital (net cash, inventories, and trade credit). That this model produces standard responses to macroeconomic variables to productivity shocks, and also that financial intermediation shocks, reasonably like those experienced within the United Kingdom after 2007, have persistent negative effects on economic activity; These effects are reinforced by reductions in trade credit. Our model also documents the critical role of monetary policy to offset such shocks.

After reviewing previous studies, we couldn't determine the type of relationship, positive or negative, or the absence of sway of macroeconomic factors on capital solvency. Therefore, the foremost hypothesis must be formulated:

There is no statistically significant relationship between the macroeconomic factors; public debt growth(X1), inflation (X2), money supply (X3), the balance of payments(X4),

unemployment rate(X5), and capital solvency(Y) in Islamic banks at a serious level of 5%, sub-hypotheses are derived from it:

1- there isn't any statistically significant relationship between macroeconomic factors (public debt growth(X1), inflation (X2), money supply (X3), the balance of payments(X4), unemployment rate(X5), and capital solvency represented (Y1: shareholder equity ratio/total assets) in Islamic banks.

2- there is not any statistically significant relationship between macroeconomic factors; public debt growth(X1), inflation (X2), money supply (X3), the balance of payments(X4), unemployment rate(X5), and capital solvency represented (Y2: shareholder equity ratio/total deposits) in Islamic banks.

3- there is no statistically significant relationship between macroeconomic factors; public debt growth(X1), inflation (X2), money supply (X3), the balance of payments(X4), unemployment rate(X5), and capital solvency represented (Y3: Capital Adequacy Ratio) in Islamic banks.

The data of Islamic banks were extracted from the banks' budgets directly and compared with the financial data within the Amman Financial Market. The knowledge on macroeconomic factors was extracted from the Department of Statistics and so the financial organization, and also the study period covered from the beginning of 2005 until the highest of 2021.

MATERIAL AND METHODOLOGY

This study depends on the descriptive approach on the theoretical side, and therefore the statistical and standard approach on the applied side using some statistical tools, quantification, and estimation of multiple simple regression equations, counting on the E-Views program and Excel in analyzing the info of the study variables.

Data and Variables

The study population consists of three Jordanian Islamic banks listed on the Amman Stock Exchange. The study population was International Islamic Arab Bank, Jordanian Islamic Bank, and Safwa Bank during the period (2005-2021).

The data on public debt growth(X1), inflation (CPI)(X2), money supply(M2) (X3), the balance of payments(X4), and unemployment rate(X5) variables were retrieved from the Central Bank of Jordan website (http://statisticaldb.cbj.gov.jo /Browser/index) whereas the data on Equity, total assets, and total deposits were from Securities Depository Centre (SDC) of

Jordan web site(www.sdc.com.jo). As for the variables which we used in our estimation model, the dependent variables were(Mandipa & Sibindi, 2022):

- Return to assets (Y1): It represents one of the working capital solvency indicators, and return to assets can be expressed in the following mathematical formula:
- Return to assets (Y1) = (Summation net income after tax for banks / total assets for banks).
- Return to Deposits (Y2): It refers to one of the working capital solvency indicators, Return on Deposit can be expressed in the following mathematical formula:
- Return on Deposits (Y2) = (Summation net income after tax for banks / total deposits for banks).
- Capital Adequacy Ratio (Y3): It is considered one of the working capital solvency indicators and it measures in the following mathematical formula:
- Capital Adequacy Ratio (Y3) = (Summation Regulatory capital / Summation risk-weighted assets for banks).

Research Method

To test the validity of the models that were adopted in the study by conducting the multiple linear regression test, which explains the explanatory ability of the models used, because the multiple linear regression method is one of the methods in which the relationship between variables. Accordingly, the formula for each of the study models can be written as follows:

$$Y1=B0+B1\ X1+B2\ X2+\ B3\ X3+B4\ X4+\ B5\ X5+\ U \quad (1)$$

$$Y2=\ B0+B1\ X1+B2\ X2+\ B3\ X3+B4\ X4+\ B5\ X5+\ U \quad (2)$$

$$Y3=\ B0+B1\ X1+B2\ X2+\ B3\ X3+B4\ X4+\ B5\ X5+\ U \quad (3)$$

RESULTS AND DISCUSSION

To analyze data on macroeconomic factors (public debt growth (X1), inflation (X2), money supply (X3), balance of payments (X4), and unemployment rate (X5)), and the working capital solvency indicators (Return to assets (Y1), Return to Deposits (Y2) and Capital Adequacy Ratio (Y3)), the data was entered into the (E-views) program to perform the following tests:

Descriptive Statistics

It is noticed in the first table that the arithmetic mean of the dependent variables (Return to assets, Return to Deposits, and Assets for net income) are 0.154, 0.175, and 9.430 respectively, and the arithmetic means of the independent variables (public debt growth (X1), inflation (X2), money supply (X3), balance of payments (X4), and unemployment rate (X5)) are 9.960, 3.506, 25697.056, -1996.375 and 0.140 respectively. When checking the Skewness values for the data of the independent and dependent variables, we find that most of them have a normal distribution, because the Skewness values are close to zero and the largest value is 0.719, and this confirms that the data has a normal distribution (Table 1).

Table 1 – Descriptive statistics of variables.

Variables	Mean	SD	Min	Max	Skewness
Y1	0.154	0.064	0.094	0.340	0.719
Y2	0.175	0.024	0.154	0.227	0.160
Y3	9.430	1.043	7.469	10.690	-0.611
X1	9.960	5.753	1.251	21.593	0.468
X2	3.506	3.647	-0.900	14.000	0.398
X3	25697.056	7927.050	12364.000	37011.900	-0.288
X4	-1996.375	762.417	-3344.900	-712.500	-0.024
X5	0.140	0.020	0.111	0.185	0.696

Source: Prepared by the author (2023)

Correlations Matrix

It is noticed through the second table Pearson's correlation coefficient between the variables for the first, second, and third models, respectively, that the largest value of the correlation coefficient is 0.567, which is a small value much less than the permissible 0.8, which means there is no correlation between the variables of the study models (Table 2).

Table 2 – Correlation matrix.

Variables	X1	X2	X3	X4	X5
X1	1.000				
X2	-0.076	1.000			
X3	0.214	0.104	1.000		
X4	0.567	0.140	0.249	1.000	
X5	-0.423	0.406	0.362	-0.094	1.000

Source: Prepared by the author (2023)

Regression Analysis

The results of the multiple linear relationships test and the multiple regression test indicate that there are no multiple linear relationships between the independent variables because the VIP value of the independent variables is greater than (1) and less than 10, and

when we return to the previous table, we found that the largest value of the correlation coefficient for the independent variables is 0.567 and this ratio less than 0.800 (Drury, 2008).

It can be seen from the third table that the (DW = 1.643) and the (F = 13.012) computed value say that the model is suitable compared to the tabular (Durban Watson and F value). We find that all of the computed (t) values are greater than the t-tabulated values, indicating the importance of the independent variables statistically. This result confirms that all values are statistically significant for the independent variables because Sig is less than (0.05) and the explanatory value of the model is 0.750, which is a high and acceptable value in the model, and it means that 75% of the changes in working capital solvency Return to assets (Y1) = (Summation net income after tax for banks / total assets for banks) are caused by A change in the independent variables (macroeconomic factors: growth in public debt (X1), inflation (X2), money supply (X3), the balance of payments (X4), and unemployment rate (X5)). To become the first model (Table 3):

$$Y1=0.329 - 0.203X1 – 0.104\ X2 + 0.598X3 + 0.265X4- 0.121X5 + U \quad (1)$$

Table 3 – The results of examining the effect of macroeconomic factors (public debt growth, inflation, money supply, the balance of payments, and unemployment rate) on working capital solvency Return to assets (Y1)

Variables	Coefficient	t-Statistic	R^2	Sig	F	D.W	VIP
Constant	0.329	2.943	0.750	0.015	13.012	1.643	
X1	-0.203	-3.384		0.006			1.585
X2	-0.104	-3.268		0.003			1.449
X3	0.598	3.341		0.007			1.992
X4	0.265	4.790		0.004			1.266
X5	-0.121	-4.167		0.002			2.082

Source: Prepared by the author (2023), and the effect is statistically significant at ($\alpha \leq 0.05$)

From the fourth table, it is noted that the coefficient of determination is (0.641), which means that the explanatory power of the model is good, that is, 64.1% of the changes that occurred in the solvency of working capital Return on Deposits (Y2) = (Summation net income after tax for banks / total deposits for banks) are caused by the change in (macroeconomic factors: growth in public debt (X1), inflation (X2), money supply (X3), the balance of payments (X4), and unemployment rate (X5)), While 35.9% of the changes in the return on total deposits are due to other factors that were included in the random error for their inability to measure, and it is also noted that all the statistical significance values of the independent variables are less than 0.05 and this indicates that the regression equation is statistically significant at 0.05 % level. This result also confirms that all (t) values computed by ignoring the sign of the negative or positive value (t) are greater than the t-tabulated value. And that the model is

suitable based on the value of (F = 16.772), which is greater than the F-tabular value. Thus, the second model becomes (Table 4):

$$Y2= 0.220 - 0.101\ X1 - 0.201\ X2 + 0.188X3 + 0.461X4 - 0.079X5 + U \quad (2)$$

Table 4 – The results of examining the effect of macroeconomic factors (public debt growth, inflation, money supply, the balance of payments, and unemployment rate) on working capital solvency Return on Deposits (Y2)

Variables	Coefficient	t-Statistic	R^2	Sig	F	D.W
Constant	0.220	4.408	0.641	0.001	16.772	1.427
X1	-0.101	-2.568		0.003		
X2	-0.201	-2.553		0.013		
X3	0.188	3.355		0.040		
X4	0.461	4.049		0.007		
X5	-0.079	-3.044		0.012		

Source: Prepared by the author (2023), and the effect is statistically significant at ($\alpha \leq 0.05$)

The fifth table notes that the coefficient of determination (0.694), which means that the explanatory power of the model is good, i.e., variables that are not dependent on macroeconomic factors (public debt growth, inflation, money supply, payment of the balance. and unemployment rate) were able to explain 69.4 the ratio Percentage of changes that occur in the dependent variable Capital Adequacy Ratio (Y3) = (Summation Regulatory capital / Summation risk-weighted assets for banks. It is also noted that values of the statistical significance of the independent variables are less than 0.05, and this indicates that the regression equation has statistical significance at the 0.05% level, on the solvency of capital and at the same time, is statistically significant, and that the model is suitable based on the value of (F = 14.531), which is greater than the F-tabular value. So, the third model is (Table 5):

$$Y3= 7.486 - 0.034\ X1 - 0.047\ X2 + 0.374\ X3 + 0.005\ X4 - 0.515X5 + U \quad (3)$$

Table 5 – The results of examining the effect of macroeconomic factors (public debt growth, inflation, money supply, the balance of payments, and unemployment rate) on working capital solvency Capital Adequacy Ratio (Y3)

Variables	Coefficient	t-Statistic	R^2	Sig	F	D.W
Constant	7.486	3.697	0.694	0.004	14.531	1.522
X1	-0.034	-3.853		0.013		
X2	-0.047	-2.782		0.043		
X3	0.374	2.690		0.023		
X4	0.005	2.771		0.048		
X5	-0.515	-3.116		0.010		

Source: Prepared by the author (2023), and the effect is statistically significant at ($\alpha \leq 0.05$)

CONCLUSION

It is noticed through the analysis of the multiple statistical linear regression models shown in Tables (3, 4, 5) that they reject the null hypothesis that there is no statistically significant effect at ($\alpha \leq 0.05$) for the macroeconomic factors (public debt growth, inflation, money supply, balance of payments, Unemployment rate) on the working capital solvency of its three measures (Return to assets, Return to Deposits, and Capital Adequacy Ratio) in Jordanian Islamic banks. The tables indicate that the economic factors (money supply (X3), the balance of payments (X4)) have a weak, positive, and statistically significant effect on working capital solvency, and it means that the improvement in economic factors: money supply (X3), the balance of payments (X4) makes people optimistic about the economic situation within the country and savings in banks will increase as a result of the increase in the amount of money people have, which will lead to a decrease in the return on deposits and an increase in the return on shareholders, and thus the solvency of the capital will increase working money in the bank.

In the case of economic expansion (increase in the money supply) speed inflation will rise, and firms increase their investments due to higher demand for their products and thus increase the use of capital more than an increase in production until production reaches the value of assets, which improves the solvency of working capital. This has been confirmed by Andhika et al. (2021), Soukhakian and Khodakarami (2019), Akbar et al. (2018), and Yenice and Sedat (2015). As for the growth in public debt (X1), inflation (X2), and unemployment rate (X5), they have a statistically significant negative effect on the solvency of working capital at the level of 5%, and it means that the increase of these macroeconomic factors: (growth in public debt, inflation, and the unemployment rate) will reduce the solvency of working capital at the level of 5%. People are fearful about the country's economic predicament due to the rise in public debt, inflation, and the unemployment rate and avoid saving money in banks as a result. As a result, the banks will raise the share of profits on deposits at the expense of reducing shareholders' profits, and thus the solvency of the bank in asset management will decrease. This was confirmed by the study by Widyastuti et al. (2017), Anggraeni et al. (2021), Dahiyat et al. (2021), Hussain et al. (2021), and Corugedo et al. (2011). A study by Zhang and Daly (2015) showed that when the economy is not growing, companies remain at their current asset levels, and therefore there is no influence of economic factors on assets. This is confirmed by studies by Abbadi and Abbadi (2013) and Nguyen (2020).

When examining the three models, the difference is very small, almost negligible, so the adoption of any of the three models will serve the purpose for which the study was

conducted. Based on the previous result, the researcher suggests that the government is working hard to reduce growth in public debt and inflation and reduce unemployment by increasing projects that increase people's money and then increasing exports that improve the balance of payment.

REFERENCES

Abad-Gonzalez, J., Gutiérrez-López, C., & Salvador, A. (2018). Banking solvency determinants in the EU: A model based on stress tests. *Applied Economics Letters*, 25(18), 1296–1300. https://doi.org/10.1080/13504851.2017.1418071

Abbadi, S. M., & Abbadi, R. T. (2013). The determinants of working capital requirements in Palestinian industrial corporations. *International Journal of Economics and Finance*, 5(1), 65–75. https://doi.org/10.5539/ijef.v5n1p65

Akbar, M., Masyita, D., Febrian, E., & Buchory, H. A. (2018). The impact of macroeconomics factors, capital structure, and liquidity on the foreign Bank's performance in Indonesia. *Academy of Strategic Management Journal*, 17(2), 1–17.

Alhayali, W. N., & Albutma, M. O. (1996). *Financial analysis*. Jordan: Dar Hanin.

Alsharif, Bader Mustafa. (2023) The Impact of Macroeconomic Variables on the Performance of Islamic Banks: an Empirical Study. Journal of Professional Business Review, 8(4), 01-16. https://doi.org/10.26668/businessreview/2023.v8i4.1347

Andhika, R. S., Muda, I., & Erwin, K. (2021). Factors affecting the distribution of working capital credit: A case study of rural banks in Indonesia. *Journal of Asian Finance, Economics, and Business*, 8(6), 0121–0132. https://doi.org/10.13106/jafeb.2021.vol8.no6.0121

Anggraeni, A., Basuki, B., & Setiawan, R. (2021). Factors influencing bank capital and profitability: Evidence of government banks in Indonesia. *Journal of Asian Finance, Economics, and Business*, 9(2), 0185–0191. https://doi.org/10.13106/jafeb.2022.vol9.no2.0185

Basle 3. (December 2010). *A global regulatory framework for more resilient banks and banking systems*. http://www.bis.org

Celik, R., Bilen, B., & Bilen, Ö. (2015). The impacts of changes in macro-economic data on net working capital: The case of Turkey's industrial sector. *Procedia Economics and Finance*, 38, 122–134. https://doi.org/10.1016/S2212-5671(16)30184-8

Corugedo, E. F., McMahon, M. F., Millard, S., & Rachel, L. (2011). Understanding the macroeconomic effects of working capital in the United Kingdom. *SSRN Electronic Journal*, 422, 1–47. https://doi.org/10.2139/ssrn.1814987

Dahiyat, A. A., Weshah, S. R., & Aldahiyat, M. (2021). Liquidity and solvency management and its impact on financial performance: Empirical evidence from Jordan. *Journal of Asian Finance, Economics, and Business*, 8(5), 0135–0141. https://doi.org/10.13106/jafeb.2021.vol8.no5.0135

Drury, C. (2008). *Management and cost accounting* (5th ed). NY: Thomson Publishers.

Fouad, A. (1995). *Selected topics in accounting analysis*. Jordan: Dar of Arab Culture.

Hussain, S., Nguyen, V. C., Nguyen, Q. M., Nguyen, H. T., & Nguyen, T. T. (2021). Macroeconomic factors, working capital management, and firm performance: A static and dynamic panel analysis. *Humanities and Social Sciences Communications*, 8(1), 1–14. https://doi.org/10.1057/s41599-021-00778-x

Mandipa, G., & Sibindi, A. B. (2022). Financial performance and working capital management practices in the retail sector: *Empirical evidence from South Africa. Risks*, 10(3), 7. https://doi.org/10.3390/risks10030063

Nguyen, C. T. (2020). Impact of working capital management on firm performance in different business cycles. *Journal of Asian Finance, Economics, and Business*, 7(12), 863-867. https://doi.org/10.13106/jafeb.2020.vol7.no12.863

Soukhakian, I., & Khodakarami, M. (2019). Working capital management, firm performance and macroeconomic factors: Evidence from Iran. *Cogent Business and Management*, 6(1), 1–24. https://doi.org/10.1080/23311975.2019.1684227

Sultan, M. S. (1989). *Banking administration*. Alexandria, Egypt: Alexandria University Youth Foundation.

Widyastuti, M., Oetomo, H., & Riduwan, A. (2017). Working capital and macroeconomic variables as value creation in Indonesian textile companies. *International Journal of Business and Finance Management Research*, 5, 7–16.

Yenice, S., & Sedat, Q. (2015). Determining the influences of macroeconomic variables on working capital through artificial neural network modeling: The case of Turkey. *International Business Research*, 8(8), 14–26. http://doi.org/10.5539/ibr.v8n8p14

Zhang, X., & Daly, K. (2015). The impact of bank-specific and macroeconomic factors on China's bank performance. *Chinese Economy*, 47(5), 5–28. https://doi.org/10.2753/CES1097-475470501.2014.11082913