
MEASURING FINANCIAL CONTINUITY AND ITS IMPACT ON LIQUIDITY INDEX ACCORDING TO THE PEAVER MODEL FRAMEWORK-ANALYSIS AND RESEARCH ON MULTIPLE PRIVATE COMMERCIAL BANKS IN IRAQ

Jamal hadash Mohammed

Department of Finance and Banking/

College of Administration and Economics/ Tikrit University

Jamal55@tu.edu.iq

Abstract

This study uses the Peaver model to measure and analyze financial continuity indicators and their impact on the liquidity index of several commercial banks in Iraq. The main question begins with using the Peaver model to measure the likelihood of financial continuity of the interviewed banks and the extent of its impact on liquidity. The research community covers the Iraqi banking industry, the research sample is limited to a certain number of private commercial banks listed on the Iraqi Stock Exchange and four banks, and the study uses descriptive and analytical methods to measure these indicators. The study reaches several conclusions, the most important of which is that in times of banking crisis, banks with financial continuity protect themselves more effectively than other banks because they represent the overall framework of a bank's ability to survive, grow, and continue to develop. Adequate provision of banking services in the long term, in line with the recommendations revealed by the study, ensures a quick response to any financial crisis in line with the so-called warnings. They are monitoring the external and internal environment of banking activities in the early stages of the crisis and adopting a legal and institutional framework that allows decisive action by various units and institutions within the country.

Keywords: Financial continuity, Peaver model, liquidity.

Introduction

The banking sector has grown significantly across the globe, significantly affecting its continuity, vulnerability to shocks and crises, and the likelihood of financial distress. Banks play a prominent role in promoting economic growth by contributing to Financial instruments for financing, such as liquidity. Therefore, the research focuses on knowledge that addresses financial continuity through modern models and tools that help achieve financial sustainability. The study focuses on how these sources and their use can be supported by applying the Peaver model.

The study is divided into three parts, the first emphasizing the research methodology. The second theme focuses on the theoretical framework dealing with the study variables, while

the third theme is limited to practical aspects. The investigation concludes with conclusions and recommendations.

The first topic/research methodology

First: The research problem:

A research question that any study of achieving financial continuity may face can be stated as follows: The challenges involved in achieving financial continuity can be stated as follows: This research question is based on an understanding of the difficulties that organizations face in achieving financial continuity. Achieve long-term financial sustainability.

The research question is to answer the following fundamental questions:

Can financial continuity be expressed using the Peaver model?

Will the Peaver model affect the liquidity index?

Second: Research Objectives: This research aims to achieve the primary goal of characterizing and diagnosing financial continuity through the Peaver model. The following sub-goals generate the main goal:

- 1- Determine the type of financial continuity.
- 2- State and identify the mechanism for measuring the Peaver model.
- 3- Measurement and analysis of the liquidity of the interviewed banks.

Third: The importance of research: The importance of research lies in:

- 1- Provide a theoretical and cognitive framework regarding financial continuity.
- 2- Highlight the standards used in the measurement.
- 3- Financial continuity research helps companies achieve continuity in financial markets by enabling them to adapt effectively to economic challenges and changes.
- 4- The study of the studied variables helps balance financial, social, and environmental objectives, improve safety, and avoid financial difficulties.

Fourth: Research Hypothesis: This study is based on the following assumptions:

- There is a typical integral relationship between the financial continuity indicator as the independent variable and the liquidity index as the dependent variable according to the Peaver modeling framework.
- According to the Peaver model framework, there is a significant impact with financial continuity indicators as independent variables and liquidity indicators as dependent variables.

Fifth: Research methods:

The study relied on descriptive methods to develop theoretical aspects to provide necessary data and information and analytical methods to analyze the study variables. It used EXCELL 2016 and 13Eviews to analyze and interpret the results. The researcher relied on available data science sources (Arab and abroad), journals, research reports, books, research results, and Internet information network resources.

Sixth: Limitations of the study

- Duration: The study period is from 2014 to 2022

- Spatial Boundaries: Spatial Boundaries are represented by four private commercial banks (Ashur International Bank, National Bank of Iraq, United Investment Bank, Baghdad International Bank)

The second topic - financial continuity

First: The concept of financial continuity

The concept of financial continuity revolves around “ensuring the bank's longevity.” This means managing banking transactions without foreign help and "exchanging financing information among sustainable banks." However, another definition says that financial continuity refers to the ability of a bank to cover its costs fully and to ensure that a financial institution can survive through its income-generating activities, i.e., continue to exist without foreign contributions (EK, 2011, p: 13). The cost comes from the interest they pay to access financing services so that they become part of the financial system and can continue to operate and provide services to their customers, rather than relying on limited financing in the form of grants and low-interest loans from various financial donors. Continuity means ensuring the continuity of the bank’s business and its ability to grow over the long term. In this context, the importance of continuity in financial science is emphasized as an indicator of the sustainability of the banking sector and its ability to cope with economic and financial challenges and market competition. In accounting terms, continuity (or continuity hypothesis) is significant because the company is expected to continue operating for the foreseeable future and will not need to liquidate or significantly reduce its operations. This assumption affects how assets and liabilities are valued and how financial reports are prepared in management and operations. The concept of continuity includes the development of strategies and action plans to ensure the long-term survival and prosperity of banks through adaptation to changes in the external environment, innovation, improved operational efficiency, and effective risk management (Al-Hamdani and Al-Sayegh), 2021: 540- 541) From the above it is clear that financial continuity represents the overall framework for the ability to survive, grow and maintain activities effectively in the long term and a bank should bear all the costs of its sources of income, loans and repay interest regularly and on time without relying on Support provided by government and non-governmental organizations, i.e. H. Achieve independence and stay in the labor market.

Second: financial continuity principle

Bank financial continuity has many characteristics and principles. The most important of these are (Global et al. Alliance, 2012, p.: 3):

1. Durable, self-sufficient, and adaptable to external changes
2. Build long-term relationships with customers and directly understand their needs, desires, and associated risks
3. These principles enjoy open, transparent, and inclusive governance.
4. These principles are deeply rooted in the local people, serve the real economy, and give birth to new business models that meet the needs of both parties.
5. these principles should become integral to the bank’s culture and customers’ banking awareness.

Third: Importance of financial continuity

- 1- The importance of financial continuity stems from several points that can be emphasized (Booth, 2017, p. 25), Wachira, 2018, 29.
- 2- Financial continuity enables banks to achieve long-term survival through revenue generation capabilities.
- 3- Financial continuity aims at achieving a balance between financial resources and their use to sustain activities in the long term.
- 4- Financial continuity enables collaboration between banks and the labor market to market products and services.
- 5- Financial continuity helps in generating additional income due to strong solvency.
- 6- Financial continuity enables banks to withstand financial shocks and crises.
- 7- Continuously realize the concept of social responsibility between banks and communities.

Fourth: Foundations of financial continuity:

The foundations of financial continuity are represented by several points, represented by :(Sharma, 2008: 24) (Molony et, 2017:107)

- 1- The first basis is strategic financial planning. The mechanism helps banks clarify the objectives and determine the priorities and procedures to reach the necessary funds to cover the operational and fixed costs and achieve the stated objectives.
- 2- The second basis: Diversification of internal and external sources of revenues should be one of the most critical priorities for the bank because economic conditions change continuously, causing a significant crisis for it.
- 3- The third basis is optimal financial management: knowing how to manage financial resources is essential to achieve financial continuity to ensure internal transparency, as a complete understanding of the budget is crucial.
- 4- The fourth basis is the ability to create revenues: generating revenue for the institution is one of the means or ways to organize and diversify its sources of revenue, and the methods of generating private revenue are related to efficient management that can innovate

Fourth: The model adopted in the research to measure financial continuity (Beaver model)

It is one of the most advanced models for measuring comprehensive financial ratios as an early warning indicator of failure or financial difficulty, and the model is one of the first since the UK and Europe to specifically look at how many countries offer it. Attention was drawn to the model in the United States, which was tested on 79 failed companies and 79 successful companies similar in size and industry to the failed companies, as the criteria used by Beaver focused on the following criteria: bankruptcy, insolvency debt, default, or preferred stock default, and six broad categories were calculated for each successful and failed company. The prediction accuracy reaches 87%. One year before the event, the focus should be on the position of financial continuity or not because if the result is positive, the model is judged on continuity and non-bankruptcy (Abdul Hamid, 2020 pp. 15-16), because the financial

Continuity ratios are calculated from tables showing these ratios (Hamdi & Matar, 2010, pp. 76-77).

Table 1 Beaver scale

1.3X1+2.4X2-0.98X3-0.78 Z= Simple Regression of the Model			
Variable	Ratio	Pointer	Relative weight
X1	Net Cash Flow / Total Debt	Coverage Index	1.3
X2	Net income before interest and taxes/total assets	Revenue Strength Index	2.4
X3	Total Debt/Total Assets	Leverage Index	0.98

A table prepared by the researcher based on sources in the body of research.

Below is a description of the indicators included in the model (Nobly, 2015, p. 80) (Matar, 2010, p. 77) (Al-Areija et al., 2018, pp. 62-63) (Aziz, 2014, p. 8).

1. Net cash flow/total debt ratio

This is the cash flow ratio of a bank's primary activities to its total debt. This coverage ratio determines how long it would take to repay a debt if all cash flow were used to pay it down. Net cash flow estimates a bank's ability to meet its obligations better.

2. Net profit before interest and tax/total assets

This ratio refers to actual production before interest and taxes. Since a company's profitability is critical to its sustainability, this ratio can indicate its vulnerability to financial problems, failure, or success. Additionally, when total liabilities exceed total asset value, a budget deficit or inability to meet financial obligations occurs.

3. Total debt/total assets

This ratio is considered one of the most commonly used ratios. It is used to measure the extent of external sources of financing in a bank's financing structure and to determine the amount of debt per dinar of total assets. This process provides a clear understanding of the magnitude of potential risks that a bank may face regarding its debt load; if the ratio is above 100%, it means that the bank has more debt than its assets, which means that the bank faces high risk; the higher the ratio, the higher the risk. Low, the bank's assets exceed the value of its liabilities, 40% is considered an acceptable interest rate in most industries.

Fifth: Liquidity

Liquidity refers to generating the funds needed to support loans and satisfy deposit and withdrawal requests at an acceptable cost and within a reasonable timetable (Joel, 2011, p. 272). Cash reserves refer to amounts or assets held by banks that can be quickly converted into cash to ensure they can meet their monetary obligations without suffering a loss in value (513: Jiang et al., 2019). It is a concept that measures the ability to quickly convert cash and assets to meet pre-maturity or maturing obligations (Drehmann & Nikolaou, 2013: 2173). Bank liquidity is essential to the banking industry as banks must ensure sufficient amounts of cash or assets that can move quickly to meet their obligations. Banks facing liquidity

problems should take immediate and prudent action if other institutions or depositors find that if a bank does not have sufficient liquidity, this could lead to a massive wave of withdrawals from the public, putting the bank at risk of bankruptcy (Casu & Other, 2015, p. 302). Liquidity is measured using the following ratio:

Transaction Ratio: This is the ratio that can be used to determine the frequency with which current assets cover current liabilities, as a high ratio indicates the bank's ability to meet its obligations on time and respond to emergencies, and this ratio is measured using the following equation based on key figures (Al-Khatib, 2010, p. 64).

$$\text{turnover Ratio} = \frac{\text{trading assets}}{\text{short term liabilities}}$$

The third topic - the analytical aspect

First: Analysis of bank financial continuity indicators (research sample), which is completed through regression analysis of the Z model, as follows

Banks are the main engines that drive the wheels of a country's economy, so we took the research community of the Iraqi banking industry as the research sample, intentionally taking (4) Iraqi private commercial banks as representatives, and we presented Ashur International Bank for each bank, National Bank of Iraq, International Bank for Investment and Financial Development, Bank of Baghdad. Since the analysis outcome determines two levels of success or failure for the bank, this is the Z value for $Z < 0$. Banks tend to predict financial failure, which threatens their financial viability, while $Z > 0$ means that the bank is successful does not suffer financial distress, and is financially sustainable.

1- Ashur International Bank

The financial continuity accounts of Ashur International Bank for the years are covered in Table (2).

Table 2 Continuity calculation of Assyrian International Bank based on the Peaver model

Years	Calculation of indicators of continuity based on the Peaver model				Assyrian Bank classifies institutions as bankrupt or successful based on the Peaver model		
	X1 Cash flow/total debt	X2 Net income before interest and taxes/total assets	X3 Total Debt/Total Assets	Z	Z value	The bank succeeded	the bank is in trouble
2014	0.943	0.031	0.196	0.072	Z<0 stumbling z>0 successful		✓
2015	3.335	0.032	0.027	2.704	Z<0 stumbling z>0 successful		✓
2016	-0.614	0.041	0.026	-1.338	Z<0 stumbling z>0 successful		✓
2017	-1.469	0.041	0.028	-2.222	Z<0 stumbling z>0 successful		✓
2018	1.691	0.012	0.120	0.873	Z<0 stumbling z>0 successful		✓
2019	-2.725	0.017	0.035	-3.582	Z<0 stumbling z>0 successful		✓

2020	1.922	0.041	0.053	1.245	Z<0 stumbling z>0 successful		✓
2021	0.821	0.017	0.137	-0.028	Z<0 stumbling z>0 successful		✓
2022	-0.034	0.024	0.310	-1.062	Z<0 stumbling z>0 successful		✓
Rate	0.430	0.028	0.104	-0.371	Z<0 stumbling z>0 successful		✓

Table compiled by researchers based on bank financial reports published by the Iraqi Stock Exchange

From Table (2), it is clear that the Z-score calculated by the Beaver model for the years studied for Assyrian International Bank is harmful in some years and positive in other years since the year in which a positive ratio was achieved (2014 The negative ratios for each year (2015, 2014, 2015), 2018, 2020) are (0.072, 2.704, 0.873, 1.245), while the negative ratios for each year (2016, 2017, 2019, 2021, 2022) The negative ratios of are (-1.338, -2.222, -3.582, -0.028), -1.062) which means that the years with negative results are the most common among the studied years, and the Z calculated for these years (2014 to 2022) The general average of the scores is opposing and the ratio is (-0.371) due to the imbalance of cash flows relative to the total debt incurred by the bank, exposing the bank to the risk of financial distress and the possibility of financial discontinuity.

2- National Bank of Iraq

Calculate the financial continuity of the National Bank of Iraq for the year under review using table (3)

Table (3) Continuity calculation of the National Bank of Iraq based on the Peaver model

Years	Calculation of indicators of continuity based on the Peaver model				The National Bank of Iraq rates the Peaver model as a "failure" or "success."		
	X1 Cash Flow / Total Debt	X2 Net income before interest and taxes/total assets	X3 Total Debt/Total Assets	z	Z value	The bank succeeded	the bank is in trouble
2014	0.160	0.015	0.269	-0.844	Z<0 stumbling z>0 successful		✓
2015	-0.533	0.008	0.344	-1.647	Z<0 stumbling z>0 successful		✓
2016	0.535	0.048	0.215	-0.325	Z<0 stumbling z>0 successful		✓
2017	0.339	0.010	0.222	-0.625	Z<0 stumbling z>0 successful		✓
2018	0.286	-0.011	0.146	-0.654	Z<0 stumbling z>0 successful		✓

2019	0.000	0.018	0.267	-0.998	Z<0 stumbling z>0 successful		✓
2020	0.122	0.028	0.356	-0.937	Z<0 stumbling z>0 successful		✓
2021	0.047	0.018	0.476	-1.155	Z<0 stumbling z>0 successful		✓
2022	0.366	0.014	0.394	-0.754	Z<0 stumbling z>0 successful		✓
Rate	0.147	0.016	0.299	-0.882	Z<0 stumbling z>0 successful		✓

Table compiled by researchers based on bank financial reports published by the Iraqi Stock Exchange

Table (3) shows that for the years studied by the National Bank of Iraq, the Z-scores calculated by the Beaver model are negative in all years. The general mean of the Z-scores calculated for that year (2014 to 2022) is negative, and the ratio is (-0.882) due to the imbalance of cash flows compared to the total debt incurred by the bank, exposing the bank to the risk of financial distress and the possibility of financial discontinuity.

3- International Bank for investment and Finance development

Calculate the financial continuity of the National Bank of Iraq for the year under review using table (4)

Table (4) Continuity calculation of Development Investment Bank based on Peaver model

Years	Calculation of indicators of continuity based on the Peaver model				IDB classifies the Peaver model as stalled or successful		
	X1 Cash Flow / Total Debt	X2 Net income before interest and taxes/total assets	X3 Total Debt/Total Assets	z	Z value	The bank succeeded	the bank is in trouble
2014					Z<0 stumbling z>0 successful		✓
	0.589	0.045	0.295	-0.355			✓
2015					Z<0 stumbling z>0 successful		✓
	-0.136	0.025	0.374	-1.225			✓
2016					Z<0 stumbling z>0 successful		✓
	-0.418	0.030	0.426	-1.557			✓
2017					Z<0 stumbling z>0 successful		✓
	-0.050	0.023	0.410	-1.179			✓
2018					Z<0 stumbling z>0 successful		✓
	-0.072	0.014	0.436	-1.248			✓

2019					Z<0 stumbling z>0 successful		✓
	0.132	0.008	0.449	-1.066			
2020					Z<0 stumbling z>0 successful		✓
	0.621	0.015	0.360	-0.457			
2021					Z<0 stumbling z>0 successful		✓
	0.278	0.013	0.399	-0.852			
2022					Z<0 stumbling z>0 successful		✓
	0.093	0.009	0.469	-1.121			
Rate					Z<0 stumbling z>0 successful		✓
	0.115	0.020	0.402	-1.007			

Table compiled by researchers based on bank financial reports published by the Iraqi Stock Exchange Table (4) shows that the Z-scores calculated by the Beaver model for the years studied by the Development Investment Bank are negative in all years, and the overall mean of the Z-scores calculated for each year (2014 to 2022) is. The negative value (-1.007) is due to the imbalance of cash flows relative to the total debt incurred by the bank, exposing the bank to the risk of financial distress and the possibility of financial incontinence.

4- Bank of Baghdad

Financial continuity accounts at the Baghdad Investment Bank for the years are recorded in Table (5).

Table (5) Continuity calculation of Baghdad Bank based on the Peaver model

Years	Calculation of indicators of continuity based on the Peaver model				Bank of Baghdad classifies the Pifer model as stagnant or successful		
	X1 Cash Flow / Total Debt	X2 Net income before and taxes/total assets	X3 Total Debt/Total Assets	z	Z value	The bank succeeded	the bank is in trouble
2014	-0.098	0.018	0.124	-0.960	Z<0 stumbling z>0 successful		✓
2015	-0.108	0.009	0.152	-1.020	Z<0 stumbling z>0 successful		✓
2016	-1.301	0.022	0.162	-2.226	Z<0 stumbling z>0 successful		✓
2017	-0.281	0.009	0.134	-1.179	Z<0 stumbling z>0 successful		✓
2018	0.492	0.005	0.145	-0.404	Z<0 stumbling z>0 successful		✓
2019	-0.481	0.010	0.132	-1.382	Z<0 stumbling z>0 successful		✓
2020	2.428	0.018	0.100	1.666	Z<0 stumbling z>0 successful		✓
2021	-0.459	0.024	0.079	-1.273	Z<0 stumbling z>0 successful		✓
2022	-2.228	0.037	0.052	-3.037	Z<0 stumbling z>0 successful		✓
Rate					Z<0 stumbling z>0 successful		✓
	-0.226	0.017	0.120	-1.091			

Table compiled by researchers based on bank financial reports published by the Iraqi Stock Exchange

As can be seen from Table (4), the Z-score calculated by the Beaver model for the Baghdad Bank study years is negative in all years, except for the year (2020), which is positive, believed to reach (1.666). The general average of the Z-score calculated across years (2014 to 2022) is negative with a ratio of (-1.091) due to the imbalance of cash flows compared to the total debt incurred by the bank. It is a disclosure risk bank faces default risk. Financial and Financial Discontinuity Possibility.

Third: Financial Analysis of Respondent Bank Liquidity Index

In order to analyze the liquidity index based on current assets/current liabilities, the current assets/current liabilities ratio of the respondent banks from 2014 to 2022 was analyzed. Table (6) shows the ratio of current assets to current liabilities from 2014 to 2022. ratio. Banks under investigation.

Table 6 Liquidity Index in Surveyed Banks

Years	Ashur International Bank	National Bank of Iraq	International Bank for investment and Finance development	Baghdad Investment Bank
2014	93.75	97.562	92.071	96.858
2015	93.55	95.818	91.230	96.364
2016	94.29	97.104	88.829	86.878
2017	89.01	97.181	89.772	86.215
2018	93.67	96.353	86.335	96.029
2019	94.15	95.952	88.324	95.518
2020	94.90	96.658	90.956	96.049
2021	96.70	97.179	93.328	96.046
2022	97.26	93.951	93.902	94.325
Rate	94.14	96.418	90.528	93.809

Table compiled by researchers based on bank financial reports published by the Iraqi Stock Exchange

As can be seen from Table (6), the liquidity ratios of the interviewed banks each year are lower than the industry standard of 1:2, which means that the interviewed banks also have weaknesses in optimizing the provision and use of funds. Due to the inability to collect loans on time, the National Bank of Iraq performed best among the banks surveyed, with an overall average of 96,418 for the year studied, while the International Development Bank was the worst, despite lower liquidity ratios among the banks surveyed. Investment Finance Banks' average average for the year under review was 90.528.

The third topic

Measuring the statistical aspects of financial continuity and its impact on liquidity index according to the Pifer model framework

First: Study variables.

Table (7): Standard Model Variables

Peaver Indicators for calculating continuity according to the model		
Variable type	Variable name in Arabic	Variable code
independent	Cash Flow / Total Debt	X1
independent	Net income before interest and taxes/total assets	X2
independent	Total Debt/Total Assets	X3
Variable type	Variable name	Variable code
adherent	Liquidity	y

Source: Table created by researchers based on model description.

Second: unit root test.

In order to measure and analyze the impact of asset quality on bank profitability in the study sample and prove the hypotheses, the first three steps are necessary. We start from the first step, which is to test the stability of the time series, so Table (2) shows us the test results (Levin et al. – LLC) as we found that all variables are level (level) stable and stable At the first difference, as follows:

Table 8 Test results of Levin, Lin, and Chu - LLC)(2002)

Levin, Lin & Chu t						
At First Difference			At Level			
Status	Prob	t-Statistic	Status	Prob	t-Statistic	
Intercept	0.0000	2.11203 - 11203 -	Intercept	0.0234	4.11203 - 11203 -	X1
Intercept	0.0029	-6.49684	Intercept	0.0054	-2.49684	X2
Intercept	0.0000	-4.99287	Intercept	0.0014	-0.99287	X3
Intercept	0.0071	4.87434-	Intercept	0.0554	0.87434-	y

Source: Table created by researchers using this program (13Eviews).

We notice in Table (9) the test results (Im et al. - IPS) that all variables are stable at Level as well as at the first difference as shown below:

Table 9 Test results on a sample of Iraqi commercial banks (I, Pesaram and Shin - IPS) (2003)

I am Pesaram and Shin (IPS)						
	At Level			At First Difference		
	t-Statistic	Prob	Status	t-Statistic	Prob	Status
X1	2.7723 -	0.0066	Intercept	-4.7645	0.0000	Intercept
X2	-6.3312	0.0934	Intercept	6.99835-	0.0000	Intercept
X3	-4.0923	0.0125	Intercept	-6.0097	0.0003	Intercept
y	-6.9972	0.0268	Intercept	-4.70910	0.0004	Intercept

Source: Table created by researchers using this program (13Eviews).

Third: use the Peaver model to measure financial continuity and use the PMG model to measure its impact on the liquidity index

Given this, since the time series of the study variables are stable within the range of levels and first differences and do not exceed the barrier of second differences, the conditions for

joint integration between the study variables are met. Utilizing the PMG method and the availability of these conditions, we were able to perform model testing using the Akaike criterion and select the best period to find the relationship between the independent variables (X3, X2, X1) and the dependent variable (y).

1- Number of deceleration cycles according to Akaike standard test time.

Akaike Information Criteria

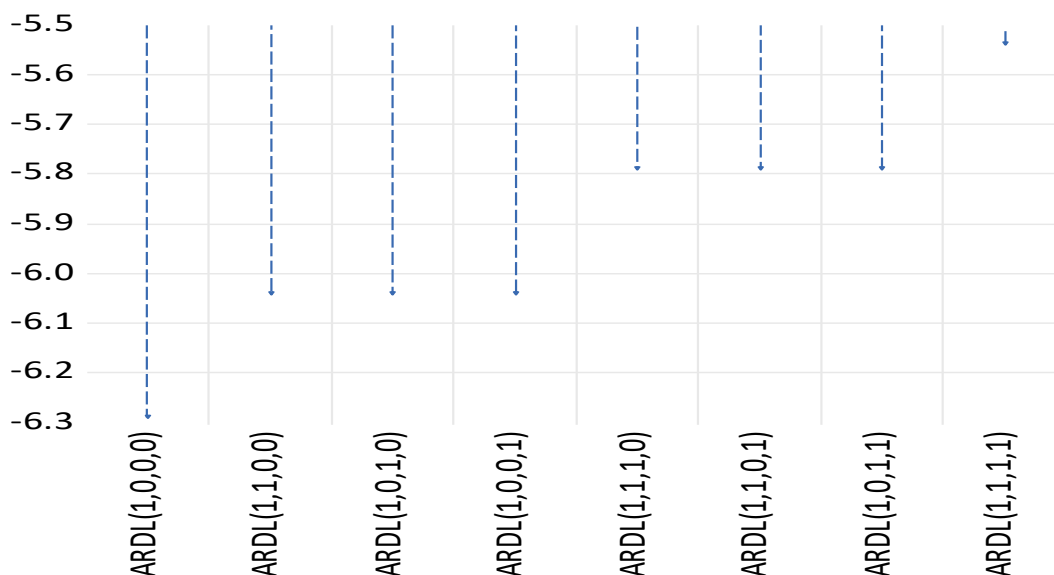


Figure 1

Akaike Slow Periods Test

Source: Table created by researchers using this program (13Eviews).

Table (10)

Akaike Slow Periods Test

Model Selection Criteria Table					
Dependent Variable: y(-1)					
Date: 04/08/24 Time: 12:07					
Sample: 2014 2022					
Included observations: 32					
Specification	HQ	BIC	AIC*	LogL	Model
PMG (1,0,0,0)	- 6.16616	- 5.92119	- 6.28763	108.60210	8

Source: Table created by researchers using this program (13Eviews).

The results in Table (4) and Figure (1) respectively show:

*-The best model to study the long-term relationship of financial continuity according to the Peaver model liquidity index framework is the model **PMG (1,0,0,0)**

2- Bound Test.

Table (11)
Bound Test Results

Null hypothesis: No levels of relationship						
Number of cointegrating variables: 4						
Number of cointegrating variables: 3						
Trend type: Rest. constant (Case 2)						
F-Stat.		Obs.		Cross-Section		
7.979571		8		1		
8.36895		8		2		
8.69479		8		3		
12.23731		8		4		
1%		5%		10%		
I(1)	I(0)	I(1)	I(0)	I(1)	I(0)	Sample Size
5.84	4.28	4.223	3.058	3.56	2.525	30
4.37	3.29	3.49	2.56	3.09	2.2	Asymptotic
* I(0) and I(1) are respectively the stationary and non-stationary bounds.						

Source: Table created by researchers using this program (13Eviews).

The results of joint integration show:

– **Ashur International Bank.**

The bounds test results in Table (11) show that according to the Peaver modeling framework with the financial continuity indicator as the independent variable and the liquidity index as the dependent variable, a typical integral relationship is shown by calculating the (F-statistic) value (7.979571), it is greater than the table value because it has reached the significance level (5%) of (3.56), which means we accept the evidence. We reject the alternative hypothesis that implies a mutually complementary relationship, namely H—the long-term equilibrium relationship between financial continuity and liquidity indicators.

– **National Bank of Iraq**

The boundary test results in Table (11) show that calculating the (F-statistic) value shows a typical integral relationship between the financial continuity indicator as the independent variable and the liquidity indicator as the dependent variable according to the Peaver modeling framework. The maximum table value of (8.36895), since it reaches (3.56) at the significance level (5%), means that we accept the evidential hypothesis and reject the alternative hypothesis, which means that there is a common integral relation, d. H. Is there a long-term equilibrium relationship between financial continuity indicators and liquidity indicators?

– **International Development Bank for Investment and Finance**

The boundary test results in Table (11) show that calculating the (F-statistic) value shows a typical integral relationship between the financial continuity indicator as the independent variable and the liquidity indicator as the dependent variable according to the Peaver modeling framework. The maximum table value of (8.69479), since it reaches (3.56) at the

significance level (5%), means that we accept the evidential hypothesis and reject the alternative hypothesis, which means that there is a common integral relation, d. H. Is there a long-term equilibrium relationship between financial continuity indicators and liquidity indicators?

– **Bank of Baghdad**

The results of the bounds test in Table (11) show that, through the calculated value of (F-statistic) (12.23731), there is a joint integral relationship between the asset quality index as the independent variable and the asset return rate as the dependent variable. , it is greater than the table value because it reaches (3.56) at the significance level (5%), which means that we accept the evidence hypothesis and reject the alternative hypothesis, which means that there is a typical integral relationship, that is, there is a long-term equilibrium relationship between financial continuity indicators and liquidity indicators.

Fourth: Measuring financial continuity and its impact on the liquidity index using the Peaver model framework.

Table (12)
The results of measuring financial continuity according to the Peaver model framework and its impact on the liquidity index

Dependent Variable: D(Z)				
Method: PMG				
Date: 04/08/24 Time: 13:14				
Sample: 2015 2022				
Included observations: 32				
Number of cross-sections: 4				
Dependent lags: 1 (Automatic)				
Automatic-lag linear regressors (1 max. lags): X1 X2 X3				
Deterministic: Restricted constant and no trend (Case 2)				
Model selection method: Akaike info criterion (AIC)				
Number of models evaluated: 8				
Selected model: PMG(1,0,0,0)				
Prob.	t-Statistic	Std. Error	Coefficient	Variable
Long-run (Pooled) Coefficients				
0.0000	5158.970	0.0001996	1.030052	X1
0.0000	183.9210	0.0130437	2.399027	X2
0.0000	-996.8890	0.0009819	-0.978936	X3
0.0000	-2090.302	0.0003733	-0.780451	C
Short-run (Mean-Group) Coefficients				
0.00000	-2714.4795	0.000368268	-0.99960426	COINTEQ
			183.1555	Log-Likelihood:

Source: Table created by researchers using this program (13Eviews).

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- The results show that cash flow/total debt (X1) successfully demonstrates its moral and direct impact on the liquidity index (y), which is significantly lower than (0.05), i.e., H. If cash flow/total debt increases by 100%, liquidity increases by 239%.
 - The results show that Net Profit before Interest and Taxes/Total Assets (X2) successfully demonstrates its moral and direct impact on the liquidity index (y), which is significantly lower than (0.05), i.e., H. If net profit before interest and tax/total assets increases by 100%, liquidity increases by 239%.
 - The results show that total debt/total assets (X3) successfully demonstrate its moral and reverse impact on the liquidity index (y), which is significantly lower than (0.05), i.e., H. If total debt/total assets increase by 100%, liquidity decreases by 97%.
 - The error correction coefficient is negative and significant, reaching (-0.99960426), and according to the probability value (0.0000) is less than (0.05), the value is significant, which means that the first condition is met. The value indicates that 99 % of short-term errors can be corrected in the annual time units shown here to return to equilibrium in the long run.

In conclusion

- 1- From the analysis, it is clear that all banks surveyed are weak in measuring financial continuity across all years due to the majority of the negative results in X1 being reflected in poor cash flow/total debt.
- 2- The results show that for all years and for all banks surveyed, cash flow/total debt (X1) successfully demonstrates its moral and direct impact on the liquidity index (y), which is a logical explanation
- 3- The results show that Net Profit before Interest and Taxes/Total Assets (X2) clearly shows its ethical and direct impact on the Liquidity Index (y), which indicates a high level of asset investment to achieve profitability.
- 4- From the analysis, it is clear that Total Debt/Total Assets (X3) successfully demonstrates its moral and reverse impact on the Liquidity Index (y). This is a logical explanation for the high debt and reduced liquidity. This means the bank relies more on debt financing.
- 5- It turns out that all banks are at risk of financial failure due to the calculated Z value. This shows that if the value is below zero, the bank faces the risk of financial failure and financial incontinence, and the overall interest rate of the interviewed banks is negative.
- 6- Despite the bank's negative score, Baghdad Bank faces the most significant risk of financial failure and lack of continuity compared to the banks surveyed.

Suggestion

- 1- Respondent banks need to strive to maximize cash flow, which is harmful to the respondent banks in most years, affecting the Z-score that measures financial continuity.
- 2- Ensure a rapid response to any financial crisis based on so-called crisis warnings to monitor the external and internal environment of banking activities and adopt a legal and institutional framework that allows decisive action for domestic institutions and institutions.
- 3- Bank commitment to achieve a balance between liquidity and profitability, which is one of the main objectives of every bank, as well as to implement the decisions of the Basel

Committee and adopt recent changes, only the next few years will be sufficient to evaluate these decisions.

4- Efforts are needed to increase the liquidity of the banks surveyed (as liquidity proved to be low) and diversify activities to maximize the use of resources.

5- The bank and central bank management must draw the bank's attention and prepare numerous studies and meetings on financial continuity.

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