



**AN ANALYSIS OF THE RESILIENCE OF
ISLAMIC BANKING IN INDONESIA**

BY

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ABSTRACT

Financial crises have adversely affected the Indonesian economy from time to time. The banking sector is considered to be the most affected type of institution due to it being an important channel through which the financial intermediation process takes place. One of the main reasons for the financial crises becoming severe was that the banking sector built up excessive balance sheet leverage, which, in turn, happened to be linked to financial cycles. Fluctuations in the financial cycles gradually eroded the level and quality of the capital base and liquidity buffers. In Indonesia, Islamic bank is the dominant sector in the Islamic financial system. This asserts that Indonesia's Islamic financial system is a bank-based economy. Thus, any financial stresses on the Islamic banking system will disturb the prospects of the economy and trigger a financial crisis. For this reason, the resilience of Islamic banking is important to ensure its ability to withstand shocks and increase its financial services. This research aimed to analyze the resilience of Islamic banking in Indonesia. More specifically, it had three objectives: measuring and determining the level of resilience of Islamic banking and its components; identifying the leading indicators that signal the emergence of external shocks with adverse implications for the resilience of Islamic banking; and analysing the link between macroeconomic indicators and the resilience of Islamic banking, in order to aid policy-making to strengthen the Islamic banking sector. This study focused on three things in order to achieve the above objectives. Firstly, the building of an Islamic banking resilience index (IBRI) which incorporates the components of resilience. Secondly, the construction of a macroeconomic vulnerability index (MVI) which serves as the signalling indicator. Thirdly, the development of a framework for the resilience of Islamic banking (FRIB) which analyses the linkage between macroeconomic indicators and the resilience of Islamic banking. The signal-extraction approach was used to determine the resilience of Islamic banking in Indonesia; this was achieved by using time-series data from 2010 until 2016 taken on a monthly basis. The findings showed that the level of resilience of Islamic banking in Indonesia has not emerged, which is reflected by its resilience components that tend to behave at levels of resilience that are no longer at their optimal level. In addition, the rate of inflation and the nominal exchange rate were confirmed as leading indicators that will signal the emergence of external shocks with adverse implications for the resilience of Islamic banking in Indonesia. Thus, improving the resilience of Islamic banking can be conducted by making a connection between the MVI's tolerable limits of shocks and the IBRI's optimal level of threshold. At the intersection level, the linkages between macroeconomic indicators and the resilience of Islamic banking can be analysed by using the thresholds of risk signalling that are shown in the FRIB. The study finally suggested that the resilience of Islamic banking requires a sustainable level of leverage, which is achieved by ensuring a more balanced asset-financing allocation, sources of funding composition, and costs over income proportion. In addition, the resilience requires a contractionary monetary policy in order to appreciate the Indonesian nominal exchange rate.

ملخص البحث

اثرت الازمات المالية بصورة سلبية على الاقتصاد الاندونيسى من وقت لآخر. ويعتبر القطاع المصرفي أكثر أنواع المؤسسات تضررا نظرا لكونه قناة هامة يتم من خلالها عملية الوساطة المالية. وأحد الأسباب الرئيسية للآزمات المالية التي أصبحت شديدة، هو أن القطاع المصرفي قد استحدث نفوذا مفرطا في الميزانية العمومية والذي بدوره ارتبط بالدورات المالية. وقد أدت التقلبات في الدورات المالية إلى تآكل تدريجي في مستوى ونوعية قاعدة رأس المال ومخزونات السيولة. وفي إندونيسيا، تشكل المصارف الإسلامية جزءاً كبيراً من النظام المالي الإسلامي. وهذا يؤكد أن النظام المالي في إندونيسيا هو اقتصاد قائم على البنوك. وبالتالي، فإن أي ضغوط مالية على النظام المصرفي الإسلامي سوف تزعزع آفاق الاقتصاد وتؤدي إلى أزمة مالية. ولهذا السبب، فإن مرونة النظام المصرفي الإسلامي مهمة لضمان قدرتها على الصمود أمام الصدمات وزيادة خدماتها المالية. يهدف هذا البحث الى دراسة مرونة النظام المصرفي الإسلامي في اندونيسيا. وبشكل أكثر تحديداً، لديه ثلاثة اهداف هي: تقييم مستوى مرونة النظام المصرفي الإسلامي وعناصره؛ تحديد المؤشرات الرئيسية التي تشير إلى ظهور صدمات خارجية مع آثار سلبية على قدرة النظام المصرفي الإسلامي على الصمود؛ وتحليل العلاقة بين مؤشرات الاقتصاد الكلي ومرونة النظام المصرفي الإسلامي من أجل المساعدة في رسم سياسات لتعزيز القطاع المصرفي الإسلامي. وركزت هذه الدراسة على ثلاثة امور من اجل تحقيق الاهداف المذكورة اعلاه. أولاً، وضع مؤشر لمرونة البنوك الاسلامية (IBRI) والذي يتضمن مكونات القدرة على الصمود. ثانياً، إنشاء مؤشر للضعف الاقتصادي الكلي (MVI) ليكون بمثابة مؤشر للتنبيه. ثالثاً، وضع إطار لمرونة النظام المصرفي الإسلامي (FRIB) من اجل تحليل الصلة بين مؤشرات الاقتصاد الكلي ومرونة البنوك الاسلامية. وقد تم استخدام نهج استخلاص الإشارات لتحديد قدرة البنوك الاسلامية في إندونيسيا على الصمود؛ وقد تحقق ذلك باستخدام بيانات السلاسل الزمنية من عام 2010 حتى عام 2016 على أساس شهري. وظهرت النتائج ان مستوى مرونة النظام المصرفي الإسلامي في اندونيسيا لم يبرز، وهو ما تعكسه مكونات مرونته التي لم تعد في أفضل مستوياتها. وبالإضافة إلى ذلك، تم التأكيد على معدل التضخم وسعر الصرف الاسمي كمؤشرات رئيسية ستشير إلى نشوء صدمات خارجية ذات آثار ضارة على قدرة النظام المصرفي الإسلامي على الصمود في إندونيسيا. وبالتالي، يمكن تحسين مرونة النظام المصرفي الإسلامي من خلال الربط بين حدود MVI للصدمات ومستوى العتبة المثالي للـ IBRI. وعلى مستوى التقاطعات، يمكن تحليل الروابط بين مؤشرات الاقتصاد الكلي ومرونة البنوك الاسلامية باستخدام عتبات إشارات المخاطر التي تظهر في الـ FRIB. وأوضحت الدراسة أخيراً أن مرونة النظام المصرفي الإسلامي تتطلب مستوى مستداماً من الرافعة المالية، وهو ما يتحقق من خلال ضمان توزيع متوازن للأصول، وتخصيص موارد للتمويل، وجعل التكاليف على نسب الإيرادات. وبالإضافة إلى ذلك، فإن المرونة تتطلب سياسة نقدية انكماشية من أجل تقدير سعر الصرف الاسمي الإندونيسي.

APPROVAL PAGE

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DECLARATION

I hereby declare that this thesis is the result of my own investigation, except where otherwise stated. I also declare that it has not been previously or concurrently submitted as a whole for any other degrees at IIUM or other institutions.

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This thesis is dedicated to my mother, the most valuable gift of Allah, my father, the most inspiring man, my two dear brothers, my beloved wife and my pious daughter.

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LIST OF ABBREVIATIONS

AFC	Asian Financial Crisis
API	Indonesia Banking Infrastructure
B	Bank
BI	Bank Indonesia
BIS	Bank for International Settlements
BoK	The Bank of Korea
BSI	Banking Stability Index
BCBS	Basel Committee and Banking Supervision
BAMBI	Banking Model of Bank Indonesia
C	Crash
CAMELS	Capital Asset Management Earnings Liquidity Sensitivity
CB	Central Bank
CoB	Conventional Bank
CS	Capital Surcharge
CAR	Capital Adequacy Ratio
CAS	Complex Adaptive System
CBC	Central Bank of Canada
CBS	Compliance Based Supervision
CCB	Capital Conservation Buffer
CCC	Crises Correctly Called
CGA	Crisis Given An Alarm Issued
CIR	Cost-to-Income Ratio
CMP	Crisis Management Protocol
CNB	Czech National Bank
CPI	Consumer Price Index
CRO	Cost-Revenue Operation
CCCB	Countercyclical Capital Buffers
D	Deleveraging
DI	Dimensional Indicators
DPK	Deposited Funds
DRR	Difference Rate of Return
ECB	European Central Bank
EMH	Efficient Markets Hypothesis
ESA	Extraction Signal Approach
EWS	Early Warning System
ESRB	European Systemic Risk Board
FDR	Financing to Deposit Ratio
FGDP	Ratio Financing to GDP
FM	Financing Margin
FiM	Financial Market
FRIB	Framework for the Resilience of Islamic Banking

FSA	Financial Service Authority
FSI	Financial Stability Indicators
FSIs	Financial Stability Institute
FTV	Financing to Value
GI	Gross Income
GDP	Gross Domestic Bruto
GFC	Global Financial Crisis
GSB	Global Squared Bias
GFDR	Gap Financing to Deposit Ratio
GGDP	Gap Gross Domestic Product
GWM	Statutory Reserve Requirement
GWM-LDR	Statutory Reserve Requirement Loan To Deposit Ratio
HCR	Hierachical Consistency Ratio
HP	Hodrick-Prescott
IB	Islamic Bank
IFSB	Islamic Financial Services Board
IM	Interest Margin
INF	Rate of Inflation
IRD	Interest Rate Differential
IBRI	Islamic Banking Resilience Index
IFSB	Islamic Financial Services Board
IHCR	Index Hierarchical Consistency Ratio
IHSG	Jakarta Stock Composite Index
II	Individual Index
IILM	International Islamic Liquidity Management Corporation
IRSP	Systemic Risk Banking Index
ISIK	Financial Institution Stability Index
ISSK	Financial System Stability Index
ISPK	Financial Market Stability Index
KRL	Kaminsky-Lizondo And Reinhart
L	Leveraging
LA	Liquid Assets
LCR	Liquidity Coverage Ratio
LDR	Loan Deposit Ratio
LF	Loss Function
LHS	Left Hand Side
LT	Lower Threshold
LTV	Loan-To-Value
M	Multiplier Value
MIS	Management Information System
MMR	Maturity Mismatch Ratio
MoF	Ministry of Finance
MVI	Macroeconomic Vulnerability Index
MoF	Ministry of Finance
MFRAF	Macrofinancial Risk Assessment Framework