

**EVALUATING THE RELATIONSHIP BETWEEN CREDIT
AND LIQUIDITY RISK EXPOSURES AND FINANCIAL
PERFORMANCE OF LISTED ISLAMIC AND
CONVENTIONAL BANKS IN JORDAN AND SELECTED
GCC COUNTRIES**

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UNIVERSITI SAINS ISLAM MALAYSIA

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Thesis submitted in partial fulfilment for the degree of
DOCTOR OF PHILOSOPHY IN ECONOMICS AND MUAMALAT
ADMINISTRATION

UNIVERSITI SAINS ISLAM MALAYSIA

January 2023

AUTHOR DECLARATION

I hereby declare that the work in this thesis is my own except for quotations and summaries which have been duly acknowledged.

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ACKNOWLEDGEMENTS

First and foremost, praise and thanks be to Allah, the most Merciful, for granting me the patience, and perseverance to complete this thesis. Peace and blessings upon His beloved our prophet Mohammad (s.a.w).

The thesis would not have been possible without many individuals' help along the way. I am greatly indebted to my supervisory committee Dr. Nuradli Ridzwan Shah Bin Mohd Dali and Dr. Nazratul Aina; this thesis could never have been completed without their help. Indeed, both have offered me precious advice, guidance, support, and expertise in writing this thesis, and spent their valuable time reading and revising it. So, I have had the pleasure to work under their supervision.

This work is dedicated to the soul of my Mother Muna Nawaf Abusalem, who has been waiting for this moment, and God's will is above everything. I am indebted also to my beloved Dad Zuhair Abdallah Alta'ani for his fullest support, effort, patience, encouragement, sacrifices. Thank you very much for your constant prayers. May Allah bless and reward him in this world and in the hereafter. My gratitude goes to my beloved Husband Nour-ALdeen Yahya Alkofahi; it is difficult to find words to express my gratitude for you. I was happy to live for some time in Malaysia with you and our children. Thank you for your trust, patience, cooperation, inducement, and perseverance during those days and nights of loneliness due to my absence. Your emotional supports and kind words always come at the right time. To my children: Jawad and Fares, who are the apple of my eyes; thank you for your prayers and patience during my long absence from home. I also thank my brother, sisters and friends for their encouragements and prayers.

ABSTRAK

Kesan pendedahan risiko kredit dan kecairan terhadap prestasi bank telah mendapatkan banyak perhatian dalam beberapa tahun kebelakangan ini di negara-negara membangun dan maju disebabkan oleh kejatuhan banyak bank-bank besar dan skandal kewangan. Tambahan lagi, risiko kredit dan kecairan adalah risiko paling signifikan yang dihadapi oleh bank kerana memberikan kredit adalah salah satu sumber pendapatan utama bank. Bank boleh jatuh bankrap apabila ia tidak mengekalkan kecairan yang mencukupi, meskipun ia memiliki kualiti aset yang baik, perolehan yang kuat, dan modal yang mencukupi. Tesis ini bertujuan untuk (1) mengkaji hubungan antara pendedahan risiko kredit dan kecairan dan prestasi kewangan bank-bank tersenarai di Jordan, (2) membandingkan pendedahan risiko kredit dan kecairan antara bank-bank Jordan, Qatar, dan Arab Saudi, (3) membandingkan pendedahan risiko kredit dan kecairan antara IB dan CB di Jordan, Arab Saudi, dan Qatar, dan (4) untuk membangun model baru (CRETY) untuk menilai pendedahan risiko kredit dan kecairan di bank-bank Islam dan konvensional. Kajian ini memberikan empat sumbangan kepada pengetahuan amali dan teori: Pertama, tesis ini membangun model komprehensif baharu (CRETY) untuk mengukur amalan pendedahan risiko, terutamanya risiko kredit dan kecairan, yang merangkumi satu set unik struktur kewangan dan penentu-penentu prestasi khusus bank. Kedua, tesis ini menambah pemahaman mengenai prestasi bank dalam satu tanda aras kontekstual baharu, pendedahan risiko kredit dan kecairan IB dan CB. Ketiga, tesis ini membangun model pendedahan risiko berbanding dengan membandingkan tiga sektor perbankan di Jordan, Arab Saudi, dan Qatar dengan jenis dan saiz bank yang berbeza. Keempat, peraturan Islam memiliki impak signifikan kepada prestasi bank. Ia meluaskan pengetahuan mengenai hubungan antara pendedahan risiko kredit dan kecairan dan prestasi bank dengan membandingkan antara IB dan CB. Tesis ini mengumpulkan data dari CB dan IB di Jordan, Qatar, dan Arab Saudi dari 2013 hingga 2017. Data dianalisis menggunakan kesan rawak, tetap dan analisis *feasible generalized least square regression*. Pendedahan risiko kredit diukur menggunakan pinjaman tak berbayar, nisbah kecukupan modal, kos per pinjaman, rizab kerugian pinjaman, dan nisbah pertumbuhan pinjaman, manakala pendedahan risiko kecairan diukur menggunakan nisbah semasa, nisbah pinjaman ke deposit, nisbah pinjaman ke aset, nisbah tunai ke deposit, dan nisbah leveraj. Prestasi bank diukur menggunakan ROA, ROE, dan Tobin's Q. Dapatan menunjukkan bahawa bank-bank Jordan memiliki pinjaman tak berbayar, kos per pinjaman, dan nisbah rizab kerugian pinjaman yang lebih tinggi. Oleh itu, pendedahan risiko kredit di bank-bank Arab Saudi dan Qatar lebih rendah daripada bank-bank Jordan. Bank-bank Jordan memiliki nisbah pinjaman ke deposit dan nisbah pinjaman ke aset paling rendah, dan ia memiliki nisbah tunai ke deposit dan nisbah leveraj paling tinggi. Oleh itu, pendedahan risiko kecairan di sektor perbankan Jordan lebih rendah daripada Arab Saudi dan Qatar. Tambahan lagi, dapatan menunjukkan bahawa IB mempunyai risiko kredit yang lebih rendah daripada CB, terutamanya dalam pinjaman tak berbayar dan rizab kerugian pinjaman. IB memiliki nisbah semasa dan nisbah tunai ke deposit yang lebih tinggi, dan oleh itu kecairan yang lebih tinggi. Dapatan FGLS menunjukkan bahawa ada hubungan signifikan antara CRE dan LRE dan prestasi bank Jordan. Dapatan menunjukkan bahawa pengawal selia dan penggubal polisi mesti mengambil kira ciri-ciri khusus kontrak-kontrak patuh Islam dalam membangunkan alat-alat pengurusan risiko berkesan dan melaksanakannya ke seluruh sektor perbankan.

Tambahan lagi, kajian ini berguna bagi ahli akademik, pengawal selia, penggubal polisi, dan pengguna penyata kewangan di Jordan dan negara-negara GCC. Kajian ini mencadangkan untuk membandingkan pendedahan risiko kredit dan kecairan di bawah piawaian Basel III dan IFRS 9 untuk menentukan sama ada piawaian baru memiliki impak nyata kepada prestasi bank di Jordan dan negara-negara GCC. Tambahan lagi, kajian akan datang boleh memperluas skop ini untuk memasukkan pengurusan risiko dan prestasi kewangan syarikat-syarikat insurans, bank-bank koperasi, dan bank-bank pembangunan. Kajian lebih lanjut boleh menggunakan pendekatan-pendekatan lain, seperti temu bual dan soal selidik, untuk mengkaji isu ini dari perspektif-perspektif lain.

ABSTRACT

The effects of credit and liquidity risk exposures on bank performance have received much attention in the last years in both developing and developed countries due to the collapse of a number of large banks and numerous financial scandals. Furthermore, credit and liquidity risks are the most significant risks faced by banks, as granting credit is one of the main sources of income for banks. Banks may fail if they do not maintain adequate liquidity, despite having good asset quality, strong earnings, and sufficient capital. This thesis aims to (1) examine the relationship between credit and liquidity risk exposures and the financial performance of listed banks in Jordan, (2) compare credit and liquidity risk exposures between Jordanian, Qatari, and Saudi Arabian banks, (3) compare credit and liquidity risk exposures between IBs and CBs in Jordan, Saudi Arabia, and Qatar, and (4) to develop a new model (CRETY) for evaluating credit and liquidity risk exposures in Islamic and conventional banks. This study adds four contributions to existing practical and theoretical knowledge: First, this thesis developed a new comprehensive model (CRETY) for measuring risk disclosures practices, particularly credit and liquidity risk, which includes a unique set of financial structure and bank-specific determinants of performance. Second, this thesis increases the understanding of bank performance in a new contextual benchmark, credit and liquidity risk exposures of IBs and CBs. Third, this thesis developed a comparative risk exposures model by comparing three banking sectors in Jordan, Saudi Arabia, and Qatar with different types and sizes of banks. Fourth, Islamic rules have a significant impact on bank performance; it extends the knowledge on the relationship between credit and liquidity risk exposures and bank performance by comparing between IBs and CBs. This thesis collected data from CBs and IBs in Jordan, Qatar, and Saudi Arabia from 2013 to 2017. The data were analyzed using random, fixed effects, and feasible generalized least square regression analysis. Credit risk exposures were measured using non-performing loans, capital adequacy ratio, cost per loan, loan loss reserve, and loan growth ratio, while liquidity risk exposures were measured using current ratio, loan to deposit ratio, loan to assets ratio, cash to deposit ratio, and leverage ratio. Bank performance was measured using ROA, ROE, and Tobin's Q. The results showed that Jordanian banks had higher non-performing loans, cost per loan, and loan loss reserve ratio, thus credit risk exposures in Saudi Arabia and Qatar banks is lower than Jordanian banks. Jordanian banks had the lowest loan to deposit ratio and loan to asset ratio, and they had the highest cash to deposit ratio and leverage ratio. Thus, liquidity risk exposures in the Jordanian banking sector are lower than the Saudi Arabia and Qatar. In addition, the findings showed that IBs have lower credit risk than CBs, particularly in non-performing loans and loan loss reserve. IBs had higher current ratio and cash to deposit ratio, and therefore higher liquidity. The FGLS results showed there is a significant relationship between CRE and LRE and Jordanian bank performance. The findings indicate that regulators and policy makers should take into consideration the specific features of Islamic compliant contracts in developing effective risk management tools and applying them to the entire banking sector. In addition, this study is useful for academics, regulators, policy makers, and users of financial statements in Jordan and GCC countries. This study recommends comparing credit and liquidity risk exposures under Basel III standards and IFRS 9 to determine whether the new standard has a real impact on the performance of banks in Jordan and GCC countries. In addition, future studies can expand this scope to include the risk management and financial performance of

insurance firms, cooperative banks, and development banks. Further research could consider other approaches, such as interview or questionnaire, to examine this issue from other perspectives.



الملخص

دور إدارة مخاطر القروض ومخاطر السيولة في تحسين أداء البنوك حصل على اهتمام واسع في السنوات الأخيرة في الدول المتقدمة والنامية نتيجة لإنهيار العديد من البنوك الكبيرة وحدوث الأزمات المالية. علاوةً على ذلك، تعتبر مخاطر السيولة والقروض من أهم المخاطر التي تواجه البنوك، وذلك لأن منح القروض يعتبر واحد من المصادر الأساسية لدخل البنوك. بالإضافة إلى ذلك تتعرض البنوك للفشل إذا لم تحافظ على السيولة الكافية بالرغم من جودة الأصول، الأرباح العالية، وكفاية رأس المال. تهدف هذه الأطروحة إلى فحص العلاقة بين عوامل مخاطر الائتمان والسيولة والأداء المالي في البنوك الأردنية المدرجة، ومقارنتها بين البنوك الأردنية والسعودية والقطرية، مقارنة عوامل مخاطر الائتمان والسيولة بين البنوك الإسلامية والتجارية في الأردن والمملكة العربية السعودية وقطر، بالإضافة إلى ذلك تطوير نموذج كرتي الشامل لتقييم عوامل مخاطر الائتمان والسيولة. هذه الأطروحة ساهمت بالقيام بتطوير نموذج شامل وجديد يسمى كرتي لقياس عوامل مخاطر الائتمان والسيولة. ثانياً، هذه الأطروحة زادت فهم أداء البنوك، عوامل مخاطر الائتمان والسيولة في البنوك الإسلامية والتجارية. ثالثاً طوّرت نموذج لمقارنة مخاطر البنوك من خلال مقارنة ثلاثة قطاعات بنكية ذوي أحجام وتعداد مختلف في الأردن، المملكة العربية السعودية، وقطر. وأخيراً، القواعد الإسلامية لها دور أساسي ومهم بالتأثير على أداء البنوك، حيث أثّرت المعرفة الإسلامية البنكية من خلال مقارنة عوامل مخاطر القروض والسيولة في البنوك الإسلامية والتجارية وأداءهما. هذه الأطروحة قامت بجمع البيانات من البنوك الإسلامية والتقليدية في الأردن، قطر، السعودية خلال خمس سنوات تمتد من سنة (2013م) إلى سنة (2017م)، والتي سيتم تحليلها باستخدام تحليل انحدار الأثر العشوائي والثابت، وتحليل المربعات الصغرى المعممة. تم قياس عوامل مخاطر الائتمان من خلال القروض الغير عاملة، كفاية رأس المال، نسبة تكاليف القروض، إحتياطي خسائر القروض، نسبة نمو القروض السنوية. بينما تم قياس عوامل مخاطر السيولة باستخدام نسبة السيولة، نسبة القروض إلى الودائع، نسبة القروض إلى الأصول، نسبة النقد إلى الودائع، ونسبة الرافعة المالية. أظهرت النتائج أن البنوك الأردنية تملك أعلى نسبة قروض غير عاملة، أعلى نسبة تكاليف لكل قرض، ونسبة احتياطي خسائر القروض، لذلك كانت إدارة مخاطر القروض في دول الخليج أفضل. بينما البنوك الأردنية تملك النسبة الأقل من نسبة القروض إلى الودائع، نسبة القروض إلى الأصول، وأعلى نسبة سيولة نقدية إلى الودائع وأعلى نسبة رافعة مالية. بالتالي، إدارة مخاطر السيولة في البنوك الأردنية هي أفضل من بنوك الخليج العربي. كذلك الأمر أظهرت

النتائج أن البنوك الإسلامية هي أكثر كفاءة من البنوك التقليدية في إدارة مخاطر الائتمان تحديداً في نسبة القروض غير العاملة واحتياطي خسائر القروض. بالإضافة إلى ذلك أظهرت طريقة تحليل المربعات الصغرى المعممة أنَّ هناك علاقة مهمة بين عوامل مخاطر الائتمان والسيولة وأداء البنوك الأردنية البنوك الإسلامية امتلكت أعلى نسبة سيولة ونسبة النقد الى الودائع. تحتاج البنوك في الاردن ودول الخليج تحديداً السعودية وقطر إلى تحسين سياسات إدارة المخاطر من خلال تحسين تطبيق سياسات بازل ثلاثة. آثار هذه الأطروحة مفيدة للأكاديميين، المسؤولين عن التشريعات ووضع السياسات المالية، مستخدمي القوائم المالية في الأردن ودول الخليج. بالإضافة الى ذلك، نتائج هذه الأطروحة ساهمت في تطوير الدراسات السابقة المتعلقة بإدارة المخاطر وأداء البنوك في الدول النامية. توصي هذه الدراسة بمقارنة التعرض لمخاطر الائتمان والسيولة بموجب معايير بازل 3 والمعيار الدولي التاسع لإعداد التقارير المالية لتحديد ما إذا كان المعيار الجديد له تأثير حقيقي على أداء البنوك في الأردن ودول مجلس التعاون الخليجي. بالإضافة إلى ذلك ، يمكن للدراسات المستقبلية توسيع هذا النطاق ليشمل إدارة المخاطر والأداء المالي لشركات التأمين والبنوك التعاونية وبنوك التنمية. يمكن لمزيد من البحوث النظر في مناهج أخرى ، مثل المقابلة أو الاستبيان ، لفحص هذه المسألة من وجهات نظر أخرى.

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LIST OF ABBREVIATIONS

NPL	Non-performing loan
CAR	Capital adequacy ratio
CPL	Cost per loan ratio
LLR	Loan loss reserve ratio
LGR	Loan growth ratio
CR	Current ratio
LDR	Loan to deposit ratio
LAR	Loan to asset ratio
CDR	Cash to deposit ratio
LR	Leverage ratio
Bsize	Bank size
Btype	Bank type
BOZ	Board size
GDP	Gross domestic product
ROA	Return on assets
ROE	Return on equity
TQ	Tobin's Q
ASE	Amman Stock Exchange
CBs	Conventional banks
IBs	Islamic banks
GCC	Gulf Cooperation Council
MENA	Middle East and North Africa
IFSB	Islamic Financial Services Board
OPEC	Organization of Petroleum Exporting
CAGR	Compound annual growth rate
SAMA	Saudi Arabia Monetary Agency
QFC	Qatar Financial Centre
LRM	Liquidity risk management
CRM	Credit risk management
LRE	Liquidity risk exposures
CRE	Credit risk exposures
BP	Bank performance