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RISKS AND BANK PERFORMANCE IN JORDAN

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UUM
Universiti Utara Malaysia

**MASTER OF SCIENCE (INTERNATIONAL ACCOUNTING)
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RISKS AND BANK PERFORMANCE IN JORDAN

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Othman Yeop Abdullah Graduate School of Business,
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(International Accounting)**



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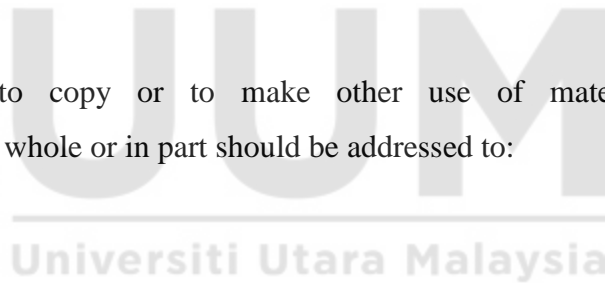
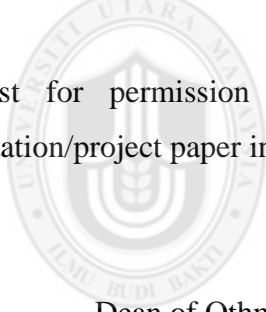
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ABSTRACT

Issue that revolves around risks and bank performance has always been an essential and critical element for banking sector in Jordan. Indeed, this study examines the impact of risks on bank performance in Jordan. Data of this study were retrieved from the Data Stream and annual reports of listed banks in Amman Stock Exchange (ASE). The sample of study comprises of 15 banks in Jordan and the period of study is confined to 2010-2014 which involved 75 observations. The dependent variable of this study is bank performance which was measured by using ROA while risks' hypotheses variables are operational risk, credit risk, and liquidity risk. The results show that operational risk and credit risk have a negative significant relationship with ROA while liquidity risk is found to have a positive insignificant relationship with ROA. Also, the study discovers that the relationship between firm size and ROA is negatively significant while the relationship between bank age and ROA is found to be positively significant. Finally, the result of the relationship between management change and ROA is positively insignificant. Hence, hypotheses of significant relationship between operational risk and credit risk with bank performance are supported while hypothesis of significant relationship between liquidity risk and bank performance is not. Moreover, the study provides suggestions and recommendations for future research work.

Keywords: Operational Risk, Credit Risk, Liquidity Risk, Return on Assets, Bank Institution.

ABSTRAK

Isu berkaitan risiko dan prestasi bank di Jordon adalah kritikal dan menjadi elemen yang penting untuk dikaji. Oleh itu, kajian ini mengkaji kesan risiko terhadap prestasi bank di Jordon. Data kajian ini diperolehi daripada Data Stream dan laporan tahunan bank yang disenaraikan di Bursa Saham Amman (ASE). Sampel kajian adalah terdiri daripada 15 buah bank di Jordon dan tempoh kajian adalah terhad kepada tahun 2010 sehingga 2014 yang membentuk 75 pemerhatian. Pemboleh ubah bersandar dalam kajian ini adalah prestasi bank yang diukur dengan menggunakan pulangan atas aset (ROA). Manakala pemboleh ubah hipotesis risiko ialah risiko operasi, risiko kredit dan risiko kecairan. Dapatan kajian menunjukkan bahawa risiko operasi dan risiko kredit mempunyai hubungan yang negatif dan signifikan dengan ROA, manakala risiko kecairan didapati mempunyai hubungan yang positif dan tidak signifikan terhadap ROA. Kajian ini juga mendapati bahawa hubungan saiz firma dan ROA adalah negatif dan signifikan, manakala hubungan antara umur bank dan ROA didapati positif dan signifikan. Akhir sekali, terdapat hubungan yang positif dan tidak signifikan antara perubahan pengurusan dengan ROA. Justeru itu, hipotesis kajian menunjukkan bahawa terdapat hubungan yang signifikan antara risiko operasi dan risiko kredit terhadap prestasi bank. Manakala risiko kecairan tidak menunjukkan hubungan yang signifikan terhadap prestasi bank. Tambahan lagi, kajian ini turut menyediakan cadangan untuk penyelidikan pada masa hadapan.

Kata Kunci: Risiko Operasi, Risiko Kredit, Risiko Kecaian, Pulangan atas Aset, Institusi Bank.

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**Marwan Hasan Altarawneh
December, 2016**

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LIST OF ABBREVIATIONS

Abbreviation	Description of Abbreviation
ROA	Return on Asset
OR	Operational Risk
CR	Credit Risk
LQ	Liquidity Risk
FIRMSIZE	Firm Size
BANKAGE	Bank Age
MCHANG	Management Change
UK	United Kingdom
US	United States
VIF	Variance Inflation Factor
CBJ	Central Bank of Jordan
GDP	Gross Domestic Product
ASE	Amman Stock Exchange
MLR	Multiple Linear Regressions

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CHAPTER ONE

INTRODUCTION

1.1 Introduction

The banking sector is the backbone and major component of the financial system. Thus, it will give impact to the stability of an economy. Any problem and interference that happens in the banking system will give implications for the economic conditions of a country (Akkizidis & Khandelwal, 2007). It means the good economic conditions have resulted from good strategies and good management in handling and controlling any problems that occur around the country.

According to Ayub (2009) the word 'bank' is derived from an Italian word 'banco' which means shelf or bench. It is used to display coins and for trading money. Therefore, a bank is an institution authorized to take deposits from customers for their financial purposes in expanding their short term and long term finance facilities. He also described that the role of a bank is to keep money which is received from ordinary people, organizations, state or surplus units which are in circulation of the economy in a country. Then, the bank will use this pooled money for making advances to others to get a return. The return can be in the form of interests, dividends or others.

Since the bank is a very important component between surplus and deficit units in the economy, it needs to maintain and perform their services efficiently (Iqbal & Molyneux, 2016). Banks with efficient performance can attract many customers in order to maintain the economic condition in the country (Iqbal & Molyneux, 2016).

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REFERENCES

- Abiola, I., & Olausi, A. S. (2014). The impact of credit risk management on the commercial banks performance in Nigeria. *International Journal of Management and Sustainability*, 3(5), 295.
- Abor, J., & Fiador, V. (2013). Does corporate governance explain dividend policy in Sub-Saharan Africa? *International Journal of Law and Management*, 55(3), 201-225.
- Ab-Rahim, R., Md-Nor, N. G., Ramlee, S., & Ubaidillah, N. Z. (2012). Determinants of cost efficiency in Malaysian banking. *International Journal of Business and Society*, 13(3), 355.
- Abu Hussain, H., & Al-Ajmi, J. (2012). Risk management practices of conventional and Islamic banks in Bahrain. *The Journal of Risk Finance*, 13(3), 215-239.
- Acerbi, C., Scandolo, G., & Giacomo. (2008). Liquidity risk theory and coherent measures of risk. *Quantitative Finance*, 8(7), 681-692.
- Adeusi, S. O., Akeke, N. I., Adebisi, O. S., & Oladunjoye, O. (2014). Risk management and financial performance of banks in Nigeria. *Risk Management*, 6(31).
- Adjaoud, F., & Ben-Amar, W. (2010). Corporate governance and dividend policy: shareholders' protection or expropriation? *Journal of Business Finance & Accounting*, 37(5-6), 648-667.
- Aebi, V., Sabato, G., & Schmid, M. (2012). Risk management, corporate governance, and bank performance in the financial crisis. *Journal of Banking & Finance*, 36(12), 3213-3226.
- Ahmed, N., Ahmed, Z., & Ahmed, I. (2010). Determinants of capital structure: A case of life insurance sector of Pakistan. *European Journal of Economics, Finance and Administrative Sciences*, 24, 7-12.
- Akkizidis, I., & Khandelwal, S. (2007). *Financial risk management for Islamic banking and finance*: Springer.
- Al Karim, R., & Alam, T. (2013). An evaluation of financial performance of private commercial banks in Bangladesh: ratio analysis. *Journal of Business Studies Quarterly*, 5(2), 65.

- Al-Ajmi, J. (2008). Audit and reporting delays: Evidence from an emerging market. *Advances in Accounting*, 24(2), 217-226.
- Alessandri, P., & Drehmann, M. (2010). An economic capital model integrating credit and interest rate risk in the banking book. *Journal of Banking & Finance*, 34(4), 730-742.
- Ali, K., Akhtar, M. F., & Ahmed, H. Z. (2011). Bank-Specific and Macroeconomic Indicators of Profitability-Empirical Evidence from the Commercial Banks of Pakistan. *International Journal of Business and Social Science*, 2(6), 235-242.
- Ali, K., Akhtar, M. F., & Sadaqat, S. (2011). Financial and non-financial business risk perspectives—Empirical evidence from commercial banks. *Middle Eastern Finance and Economics*, 11, 150-160.
- Alkhatib, A., & Harasheh, M. (2012). Financial performance of Palestinian commercial banks. *International Journal of Business and Social Science*, 3(3).
- Allen, L., DeLong, G., & Saunders, A. (2004). Issues in the credit risk modeling of retail markets. *Journal of Banking & Finance*, 28(4), 727-752.
- Al-Matari, E. M., Al-Swidi, A. K., Fadzil, F. H., & Al-Matari, Y. A. (2012). The impact of board characteristics on firm performance: Evidence from nonfinancial listed companies in Kuwaiti Stock Exchange. *International Journal of Accounting and Financial Reporting*, 2(2), 310.
- Al-Tamimi, H., Hussein, A., Miniaoui, H., & Elkelish, W. W. (2015). Financial Risk and Islamic Banks' Performance in the Gulf Cooperation Council Countries. *The International Journal of Business and Finance Research*, 9(5), 103-112.
- Altunbas, Y., Carbo, S., Gardener, E. P., & Molyneux, P. (2007). Examining the relationships between capital, risk and efficiency in European banking. *European Financial Management*, 13(1), 49-70.
- Altunbas, Y., Liu, M.-H., Molyneux, P., & Seth, R. (2000). Efficiency and risk in Japanese banking. *Journal of Banking & Finance*, 24(10), 1605-1628.
- Amran, N. A., & Che- Ahmad, A. (2010). Corporate governance mechanisms and performance: Analysis of Malaysian family and non-family controlled companies. *Journal of modern accounting and Auditing*, 6(2), 1.
- Anderson, T., & Zeghal, D. (1994). The pricing of audit services: Further evidence from the Canadian market. *Accounting and Business research*, 24(95), 195-207.

- Arif, A., & Nauman - Anees, A. (2012). Liquidity risk and performance of banking system. *Journal of Financial Regulation and Compliance*, 20(2), 182-195.
- Ariffin, N. M., & Kassim, S. H. (2011). Risk management practices and financial performance of Islamic banks: Malaysian evidence. *Paper presented at the 8th International Conference on Islamic Economics and Finance*.
- Ascarelli, S. (2002). Woes at allied Irish banks, Elan don't taint Irish stock exchange. *Wall Street Journal* (February 8).
- Asfor, M. (2003). The effects of the social and economic factors on the work of the external auditor under the domination of the establishments. In *Scientific Conference No* (Vol. 5).
- Ashraf, D., Altunbas, Y., & Goddard, J. (2007). Who transfers credit risk? Determinants of the use of credit derivatives by large US banks. *The European Journal of Finance*, 13(5), 483-500.
- Athanasoglou, P. P., Brissimis, S. N., & Delis, M. D. (2008). Bank-specific, industry-specific and macroeconomic determinants of bank profitability. *Journal of international financial Markets, Institutions and Money*, 18(2), 121-136.
- Athanasoglou, P., Delis, M., & Staikouras, C. (2006). Determinants of bank profitability in the South Eastern European region.
- Ayub, M. (2009). *Understanding Islamic Finance* (Vol. 462): John Wiley & Sons.
- Bah, S., & Field, A. (2001). Discovering Statistics Using SPSS for Windows: Advanced Techniques for Beginners: Jstor.
- Baltagi, B. H., Bratberg, E., & Holmås, T. H. (2005). A panel data study of physicians' labor supply: the case of Norway. *Health Economics*, 14(10), 1035-1045.
- Basel Committee. (2003). Sound practices for the management and supervision of operational risk. *Bank for International Settlements: Basel Committee Publications*, (96), 14.
- Beck, T., De Jonghe, O., & Schepens, G. (2013). Bank competition and stability: cross-country heterogeneity. *Journal of Financial Intermediation*, 22(2), 218-244.
- Berger, A. N., & Bouwman, C. H. (2005). Bank capital and liquidity production: mimeo, June.

- Berger, A. N., & DeYoung, R. (1997). Problem loans and cost efficiency in commercial banks. *Journal of Banking & Finance*, 21(6), 849-870.
- Blacker, K. (2000). Mitigating operational risk in british retail banks. *Risk Management*, 23-33.
- Blau, P. M., & Scott, W. R. (1962). *Formal organizations: A comparative approach*: Stanford University Press.
- Bobakovia, I. (2003). Raising the profitability of commercial banks, BIATEC, Retrieved on April, 2005, 11. Available from <http://www/nbs.SK/BIATEC>.
- Brewer, E., Jackson, W. E., & Moser, J. T. (2001). The value of using interest rate derivatives to manage risk at US banking organizations. *Economic Perspectives- Federal Reserve Bank of Chicago*, 25(3), 49-65.
- Cabedo, J. D., & Tirado, J. M. (2004). *The disclosure of risk in financial statements*. Paper presented at the Accounting Forum.
- Carneiro, L. A. F. (2006). *Corporate Risk Management with Reinsurance and Derivatives: Panel Data Methodology and New Results from Empirical Studies Using Australian Data*: University of New South Wales.
- Cebenoyan, A. S., & Strahan, P. E. (2004). Risk management, capital structure and lending at banks. *Journal of Banking & Finance*, 28(1), 19-43.
- Central Bank of Jordan. (2010). Annual Report *Central Bank of Jordan*. Amman, Jordan.
- Chapelle, A., Crama, Y., Hübner, G., & Peters, J.-P. (2008). Practical methods for measuring and managing operational risk in the financial sector: A clinical study. *Journal of Banking & Finance*, 32(6), 1049-1061.
- Chari, V. V., & Jagannathan, R. (1988). Banking panics, information, and rational expectations equilibrium. *the Journal of Finance*, 43(3), 749-761.
- Cheung, Y. L., Thomas Connelly, J., Limpaphayom, P., & Zhou, L. (2007). Do investors really value corporate governance? Evidence from the Hong Kong market. *Journal of International Financial Management & Accounting*, 18(2), 86-122.
- Coles, J. W., McWilliams, V. B., & Sen, N. (2001). An examination of the relationship of governance mechanisms to performance. *Journal of management*, 27(1), 23-50.

- Cooper, M. J., Jackson, W. E., & Patterson, G. A. (2003). Evidence of predictability in the cross-section of bank stock returns. *Journal of Banking & Finance*, 27(5), 817-850.
- Cooper, T., Speh, C., & Downey, A. (2011). *Creating a Culture of Risk Management: Wolters Kluwer Financial Services*.
- Cornalba, C., & Giudici, P. (2004). Statistical models for operational risk management. *Physica A: Statistical Mechanics and its applications*, 338(1), 166-172.
- Crichton, D. (1999). The risk triangle. *Natural disaster management*, 102-103.
- Cummins, J. D., Lewis, C. M., & Wei, R. (2006). The market value impact of operational loss events for US banks and insurers. *Journal of Banking & Finance*, 30(10), 2605-2634.
- Daniels, K., & Ramirez, G. G. (2008). Information, credit risk, lender specialization and loan pricing: Evidence from the DIP financing market. *Journal of Financial Services Research*, 34(1), 35-59.
- Davidson, R., & MacKinnon, J. G. (1993). *Estimation and inference in econometrics*.
- De Andres, P., Azofra, V., & Lopez, F. (2005). Corporate boards in OECD countries: Size, composition, functioning and effectiveness. *Corporate Governance: An International Review*, 13(2), 197-210.
- De Nicoló, G., Honohan, P., & Ize, A. (2005). Dollarization of bank deposits: Causes and consequences. *Journal of Banking & Finance*, 29(7), 1697-1727.
- Demirovic, A., & Thomas, D. C. (2007). The relevance of accounting data in the measurement of credit risk. *European Journal of Finance*, 13(3), 253-268.
- Diamond, D. W., & Dybvig, P. H. (1983). Bank runs, deposit insurance, and liquidity. *The journal of political economy*, 401-419.
- Diamond, D. W., & Rajan, R. G. (2001). Liquidity Risk, Liquidity Creation and Financial Fragility: A Theory of Banking." *Journal of Political Economy* 109.
- Diamond, D. W., & Rajan, R. G. (2005). Liquidity shortages and banking crises. *the Journal of Finance*, 60(2), 615-647.
- Dima, A. M., & Orzea, I. (2012). *Risk Management in Banking. AcademyPublish. org*.

- Dinger, V. (2009). Do foreign-owned banks affect banking system liquidity risk? *Journal of Comparative Economics*, 37(4), 647-657.
- Distinguin, I., Roulet, C., & Tarazi, A. (2012). Bank Capital Buffer and Liquidity: Evidence from US and European publicly traded banks.
- Dowd, K. (2005). Front Matter. *Measuring Market Risk, Second Edition*, i-xix.
- Drehmann, M., & Nikolaou, K. (2013). Funding liquidity risk: definition and measurement. *Journal of Banking & Finance*, 37(7), 2173-2182.
- Drehmann, M., Sorensen, S., & Stringa, M. (2008). The integrated impact of credit and interest rate risk on banks: an economic value and capital adequacy perspective.
- Edwards, H. (2004). *Barings—a case study in risk management and internal controls*. Paper presented at the The Risk & Regulatory Forum (TRRF).
- Ehrhardt, M.C and Brigham, E.F(2003). *Corporate Finance: A focused Approach*. United States, Thomson.
- Elliott, D., Letza, S., McGuinness, M., & Smallman, C. (2000). Governance, control and operational risk: the Turnbull effect. *Risk Management*, 47-59.
- Evans, D. S. (1987). The relationship between firm growth, size, and age: Estimates for 100 manufacturing industries. *The journal of industrial economics*, 567-581.
- Falconer, B. (2001). Structural liquidity: the worry beneath the surface. *Balance Sheet*, 9(3), 13-19.
- Fama, E. F. (1980). Agency Problems and the Theory of the Firm. *The journal of political economy*, 288-307.
- Fama, E. F., & Jensen, M. C. (1983). Separation of ownership and control. *The Journal of Law & Economics*, 26(2), 301-325.
- Farhi, E., & Tirole, J. (2012). Collective moral hazard, maturity mismatch, and systemic bailouts. *The American Economic Review*, 102(1), 60-93.
- Fee, C. E., & Hadlock, C. J. (2003). Raids, rewards, and reputations in the market for managerial talent. *Review of Financial Studies*, 16(4), 1315-1357.
- Fernández-Laviada, A. (2007). Internal audit function role in operational risk management. *Journal of Financial Regulation and Compliance*, 15(2), 143-155.

- Fernando, J. R. (2014). Does risk management affect on bank efficiency? An analysis of Sri Lankan banking sector. *International Journal of Management and Sustainability*, 3(2), 97.
- Fields, L. P., Fraser, D. R., & Wilkins, M. S. (2004). An investigation of the pricing of audit services for financial institutions. *Journal of Accounting and Public Policy*, 23(1), 53-77.
- Flores, F., Bónson-Ponte, E., & Escobar-Rodriguez, T. (2006). Operational risk information system: a challenge for the banking sector. *Journal of Financial Regulation and Compliance*, 14(4), 383-401.
- Frame, W. S., & White, L. J. (2004). Empirical studies of financial innovation: lots of talk, little action? *Journal of Economic Literature*, 42(1), 116-144.
- Freixas, X., Rochet, J. C., & Parigi, B. M. (2004). The lender of last resort: A twenty-first century approach. *Journal of the European Economic Association*, 2(6), 1085-1115.
- Froot, K. A. (2007). Risk management, capital budgeting, and capital structure policy for insurers and reinsurers. *Journal of risk and Insurance*, 74(2), 273-299.
- Furtado, E. P., & Karan, V. (1990). Causes, consequences, and shareholder wealth effects of management turnover: A review of the empirical evidence. *Financial Management*, 60-75.
- Gallati, R. (2003). *Risk management and capital adequacy*: McGraw Hill Professional.
- Gatev, E., & Strahan, P. E. (2006). Banks' advantage in hedging liquidity risk: Theory and evidence from the commercial paper market. *the Journal of Finance*, 61(2), 867-892.
- Gatev, E., Schuermann, T., & Strahan, P. E. (2009). Managing bank liquidity risk: How deposit-loan synergies vary with market conditions. *Review of Financial Studies*, 22(3), 995-1020.
- Genser, B., Cooper, P. J., Yazdanbakhsh, M., Barreto, M. L., & Rodrigues, L. C. (2007). A guide to modern statistical analysis of immunological data. *BMC immunology*, 8(1), 1.
- Ghabayen, M. A. (2012). Board characteristics and firm performance: Case of Saudi Arabia. *International Journal of Accounting and Financial Reporting*, 2(2), 168.

- Ghosh, S. (2006). Do board characteristics affect corporate performance? Firm-level evidence for India. *Applied Economics Letters*, 13(7), 435-443.
- Gloede, T. D., Hammer, A., Ommen, O., Ernstmann, N., & Pfaff, H. (2013). Is social capital as perceived by the medical director associated with coordination among hospital staff? A nationwide survey in German hospitals. *Journal of interprofessional care*, 27(2), 171-176.
- Goddard, J., Molyneux, P., & Wilson, J. O. (2004). The profitability of European banks: a cross-sectional and dynamic panel analysis. *The Manchester School*, 72(3), 363-381.
- Goddard, J., Molyneux, P., & Wilson, J. O. (2009). The financial crisis in Europe: evolution, policy responses and lessons for the future. *Journal of Financial Regulation and Compliance*, 17(4), 362-380.
- Goldsmith-Pinkham, P., & Yorulmazer, T. (2010). Liquidity, bank runs, and bailouts: spillover effects during the Northern Rock episode. *Journal of Financial Services Research*, 37(2-3), 83-98.
- Grassa. (2012). Syrian Crisis and Its Effect on Housing Bank in Jordan. *Grassa Newspaper*. Retrieved from <http://www.gerasanews.com/article/82658>
- Greene, W. H. (2003). *Econometric analysis*: Pearson Education India.
- Grody, A. D., Hughes, P. J., & Toms, S. (2010). Risk accounting—a next generation risk management system for financial institutions. *Journal of Financial Transformation*, 29(1), 43-56.
- Gujarati, D. N. (2009). *Basic econometrics*: Tata McGraw-Hill Education.
- Gujarati, D., & Porter, D. (2003). Multicollinearity: What happens if the regressors are correlated. *Basic econometrics*, 363.
- Habib, M. K., & Baudoin, Y. (2010). Robot-assisted risky intervention, search, rescue and environmental surveillance. *International Journal of Advanced Robotic Systems*, 7(1), 1-8.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2010). Multivariate data analysis: A global perspective. *Pearson: Upper Saddle River, NJ*.
- Hair, J. F., Black, W. C., Babin, B. J., Anderson, R. E., & Tatham, R. L. (2006). Multivariate data analysis (Vol. 6): Upper Saddle River, NJ: Pearson Prentice Hall.

- Hart, O. (1995). Corporate governance: some theory and implications. *The economic journal*, 105(430), 678-689.
- Hashem, A., Ayoub, F. M., & Ata, H. B. (2015). Corporate Governance and Bank Competition Empirical Study on the Jordanian Commercial Banks Listed in Amman Stock Exchange over the Period (2001-2014). *Asian Journal of Finance & Accounting*, 7(2), 227-238.
- Hausman, J. A. (1978). Specification tests in econometrics. *Econometrica: Journal of the Econometric Society*, 1251-1271.
- Haye, E. (2014). Dividend Policy and Agency Effects: A Look at Financial Firms. *International Journal of Economics and Finance*, 6(2), 8.
- How, J. C., Karim, M. A., & Verhoeven, P. (2005). Islamic financing and bank risks: the case of Malaysia. *Thunderbird International Business Review*, 47(1), 75-94.
- Huang, R., & Ratnovski, L. (2011). The dark side of bank wholesale funding. *Journal of Financial Intermediation*, 20(2), 248-263.
- Hubbard, R. G., & Hubbard, R. G. (1994). *Money, the financial system, and the economy*: Addison-Wesley Reading, MA.
- Hughes, J. P., Lang, W., Mester, L. J., & Moon, C.-G. (2000). Recovering risky technologies using the almost ideal demand system: An application to US banking. *Journal of Financial Services Research*, 18(1), 5-27.
- Ibrahim, H., & Samad, F. A. (2011). Corporate governance mechanisms and performance of public-listed family-ownership in Malaysia. *International Journal of Economics and Finance*, 3(1), 105.
- Imbierowicz, B., & Rauch, C. (2014). The relationship between liquidity risk and credit risk in banks. *Journal of Banking & Finance*, 40, 242-256.
- Instefjord, N. (2005). Risk and hedging: Do credit derivatives increase bank risk? *Journal of Banking & Finance*, 29(2), 333-345.
- Iqbal, M., & Molyneux, P. (2016). Thirty years of Islamic banking: History, performance and prospects: Springer.
- Iqbal, Z. (2008). Impact of global financial crisis on IDB member countries: The case of Gulf Cooperation Council and sub-Saharan Africa. *The Pakistan Development Review*, 583-601.

- Islam, K. A., Alam, I., & Al-Amin, D. M. (2015). *Foreign Exchange Operation of Private Commercial Banks in Bangladesh: A Case Study on AB Bank Limited*. Paper presented at the International Journal of Innovative Research and Creative Technology.
- Isshaq, Z., & Alufar Bokpin, G. (2009). Corporate liquidity management of listed firms in Ghana. *Asia-Pacific Journal of Business Administration*, 1(2), 189-198.
- Jacobson, T., Lindé, J., & Roszbach, K. (2006). Internal ratings systems, implied credit risk and the consistency of banks' risk classification policies. *Journal of Banking & Finance*, 30(7), 1899-1926.
- Jarrow, R. A. (2008). Operational risk. *Journal of Banking & Finance*, 32(5), 870-879.
- Jenkinson, N. (2008). Strengthening regimes for controlling liquidity risk: some lessons from the recent turmoil. *Bank of England Quarterly Bulletin*, Quarterly, 2.
- Jensen, M. C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. the *Journal of Finance*, 48(3), 831-880.
- Jensen, M. C. (2004). The agency costs of overvalued equity and the current state of corporate finance. *European Financial Management*, 10(4), 549-565.
- Jiménez, G., Lopez, J. A., & Saurina, J. (2013). How does competition affect bank risk-taking? *Journal of Financial Stability*, 9(2), 185-195.
- Kanchu, T., & Kumar, M. M. (2013). Risk management in banking sector-an empirical study. *International Journal of Marketing, Financial Services & Management Research*, 2(2), 145.
- Kargi, H. S. (2011). Credit risk and the performance of Nigerian banks. *Ahmadu Bello University, Zaria*.
- Khamis, M. (2003). Financial Sector reforms and issues in Jordan. *The Euro-Med Regional Economic Dialogue: Rome, October, 20*.
- Khan, M. S., Scheule, H., & Wu, E. (2016). Funding liquidity and bank risk taking. *Journal of Banking & Finance*.
- Khan, T., & Ahmed, H. (2001). Risk Management: An Analysis of Issues in Islamic Financial Industry (Occasional Papers): The Islamic Research and Teaching Institute (IRTI).
- Khwaja, A. I., & Mian, A. (2005). Tracing the impact of bank liquidity shocks: Citeseer.

- Klapper, L. F., & Love, I. (2004). Corporate governance, investor protection, and performance in emerging markets. *Journal of corporate Finance*, 10(5), 703-728.
- Klein, A. (1998). Firm performance and board committee structure 1. *The Journal of Law and Economics*, 41(1), 275-304.
- Kosmidou, K., Tanna, S., & Pasiouras, F. (2005). Determinants of profitability of domestic UK commercial banks: panel evidence from the period 1995-2002. *Paper presented at the Money Macro and Finance (MMF) Research Group Conference*.
- Kothari, S. (2001). Capital markets research in accounting. *Journal of accounting and economics*, 31(1), 105-231.
- Kumbirai, M., & Webb, R. (2010). A financial ratio analysis of commercial bank performance in South Africa. *African Review of Economics and Finance*, 2(1), 30-53.
- Lartey, V. C., Antwi, S., & Boadi, E. K. (2013). The relationship between liquidity and profitability of listed banks in Ghana. *International Journal of Business and Social Science*, 4(3).
- Lee, W. S., & Kwok, C. C. (2000). Domestic and international practice of deposit insurance: a survey. *Journal of Multinational Financial Management*, 10(1), 29-62.
- Lehn, K. M., Patro, S., & Zhao, M. (2009). Determinants of the Size and Composition of US Corporate Boards: 1935-2000. *Financial Management*, 38(4), 747-780.
- Linck, J. S., Netter, J. M., & Yang, T. (2008). The determinants of board structure. *Journal of Financial Economics*, 87(2), 308-328.
- Lopez, J. A., & Saidenberg, M. R. (2000). Evaluating credit risk models. *Journal of Banking & Finance*, 24(1), 151-165.
- Loutskina, E. (2005). Does securitization affect bank lending? Evidence from bank responses to funding shocks. *Manuscript, Carroll School of Management*.
- Loutskina, E., & Strahan, P. E. (2006). Securitization and the Declining Impact of Bank Finance on Loan Supply: Evidence from Mortgage Acceptance Rates. *National Bureau of Economic Research*.
- Madura, J. (2003). *International financial management*. United States: Thomson.
- Madura, J. (2011). *International financial management*: Cengage Learning.

- Malhotra, D., Poteau, R., & Singh, R. (2011). Evaluating the Performance of Commercial Banks in India. *Asia Pacific Journal of Finance and Banking Research*, 5(5), 15.
- Markowitz, H.M. (1959). *Portfolio Selection. Efficient Diversification of Investments*. New York: Wiley.
- Masood, O., Hanim Tafri, F., Abdul Rahman, R., & Omar, N. (2011). Empirical evidence on the risk management tools practised in Islamic and conventional banks. *Qualitative Research in Financial Markets*, 3(2), 86-104.
- McIntosh, A., & Gonzalez-Lima, F. (1994). Structural equation modeling and its application to network analysis in functional brain imaging. *Human Brain Mapping*, 2(1-2), 2-22.
- Miller, D. J. (1995). CEO salary increases may be rational after all: Referents and contracts in CEO pay. *Academy of Management Journal*, 38(5), 1361-1385.
- Mintzberg, H. (1979). An emerging strategy of "direct" research. *Administrative science quarterly*, 582-589.
- Moles, P. (2004). *Derivatives*: Edinburgh: Edinburgh Business School.
- Mullner, S. A., Hubert, W. A., & Wesche, T. A. (1998). Snorkeling as an alternative to depletion electrofishing for estimating abundance and length-class frequencies of trout in small streams. *North American Journal of Fisheries Management*, 18(4), 947-953.
- Musyoki, D., & Kadubo, A. S. (2011). The impact of credit risk management on the financial performance of Banks in Kenya for the period 2000–2006. *Int. J. Bus. Public Manage*, 2(2), 72-80.
- Naser, K., Al-Khatib, K., & Karbhari, Y. (2002). Empirical evidence on the depth of corporate information disclosure in developing countries: The case of Jordan. *International journal of commerce and management*, 12(3/4), 122-155.
- Newton, I. (2008). Application of Portfolio Approaches. *John b. caouette edward i. Altman paul narayanan robert nimmo*, 367.
- Ng, T.-H., Chong, L.-L., & Ismail, H. (2012). Is the risk management committee only a procedural compliance? An insight into managing risk taking among insurance companies in Malaysia. *The Journal of Risk Finance*, 14(1), 71-86.

- Nijskens, R., & Wagner, W. (2011). Credit risk transfer activities and systemic risk: How banks became less risky individually but posed greater risks to the financial system at the same time. *Journal of Banking & Finance*, 35(6), 1391-1398.
- Nikolaou, K. (2009). Liquidity (risk) concepts: definitions and interactions.
- Ongore, V. O., & Kusa, G. B. (2013). Determinants of financial performance of commercial banks in Kenya. *International Journal of Economics and Financial Issues*, 3(1), 237.
- Owojori, A. A., Akintoye, I. R., & Adidu, F. A. (2011). The challenge of risk management in Nigerian banks in the post consolidation era. *Journal of Accounting and Taxation*, 3(2), 23-31.
- Oyerinde, A. A. (2014). Corporate Governance and Bank Performance in Nigeria: Further Evidence from Nigeria. *International Journal of Business and Management*, 9(8), 133.
- Pana, E., Park, J., & Query, T. (2010). The impact of bank mergers on liquidity creation. *Journal of Risk Management in Financial Institutions*, 4(1), 74-96.
- Paravisini, D. (2004). Constrained banks, constrained borrowers: the effects of bank liquidity on the availability of credit. *Unpublished working paper, MIT*.
- Partnerships British Columbia. (2005). An introduction to risk management in a public private partnership. *Partnerships British Columbia*.
- Pasiouras, F. (2008). Estimating the technical and scale efficiency of Greek commercial banks: the impact of credit risk, off-balance sheet activities, and international operations. *Research in International Business and Finance*, 22(3), 301-318.
- Patro, S., Lehn, K., & Zhao, M. (2003). Determinants of the size and structure of corporate boards: 1935-2000. *Financial Management*, 38, 2009.
- Patton, A., & Baker, J. C. (1987). Why wont directors rock the boat. *Harvard Business Review*, 65(6), 10-&.
- Power, M. (2005). The invention of operational risk. *Review of International Political Economy*, 12(4), 577-599.
- Powers, M. R., Hassan Al-Tamimi, H. A., & Mohammed Al-Mazrooei, F. (2007). Banks' risk management: a comparison study of UAE national and foreign banks. *The Journal of Risk Finance*, 8(4), 394-409.

- Price, R. M. (2011). REIT Performance From Real Estate Mutual Fund Holdings. *Journal of Business & Economics Research (Online)*, 9(12), 19.
- Ratnovski, L. (2013). Liquidity and transparency in bank risk management. *Journal of Financial Intermediation*, 22(3), 422-439.
- Rochet, J. C., & Vives, X. (2004). Coordination failures and the lender of last resort: was Bagehot right after all? *Journal of the European Economic Association*, 2(6), 1116-1147.
- Rohami, S. (2005). *Systematic Risks, Unsystematic Risks and Audit Pricing: An Analysis in the Malaysian Financial Institutions*. Universiti Utara Malaysia.
- Roldan-Valadez, E., Rios, C., Suarez-May, M. A., Favila, R., & Aguilar-Castañeda, E. (2013). Main effect and interactions of brain regions and gender in the calculation of volumetric asymmetry indices in healthy human brains: ANCOVA analyses of in vivo 3T MRI data. *The Anatomical Record*, 296(12), 1913-1922.
- Rosman, R. (2009). Risk management practices and risk management processes of Islamic banks: a proposed framework. *International Review of Business Research Papers*, 5(1), 242-254.
- Ruziqa, A. (2013). The impact of credit and liquidity risk on bank financial performance: the case of Indonesian Conventional Bank with total asset above 10 trillion Rupiah. *International Journal of Economic Policy in Emerging Economies*, 6(2), 93-106.
- Saeed, M. H. (2015). *Examining the relationship between operational risk, credit risk and liquidity risk with performance of Malaysia Banks*. Universiti Utara Malaysia.
- Said, D. (2013). Risks and efficiency in the Islamic banking systems: the case of selected Islamic banks in Mena region. *International Journal of Economics and Financial Issues*, 3(1).
- Saiful Azhar Rosly, & Afandi Abu Bakar, M. (2003). Performance of Islamic and mainstream banks in Malaysia. *International Journal of Social Economics*, 30(12), 1249-1265.
- Sanusi, J. (2002). Central bank and the macroeconomic environment in Nigeria. *Lecture Delivered to Participants of the Senior Executive Course*(24).

- Shafiq, A., & Nasr, M. (2010). Risk management practices followed by the commercial banks in Pakistan. *International Review of Business Research Papers*, 6(2), 308-325.
- Sharpe, W F. (1964). Capital Asset Prices: A Theory of Market Equilibrium Under Conditions of Risk. *Journal of Finance*, 19(3): 425-442.
- Shen, C.-H., Chen, Y.-K., Kao, L.-F., & Yeh, C.-Y. (2009). Bank liquidity risk and performance. *Paper presented at the 17th Conference on the Theories and Practices of Securities and Financial Markets*, Hsi-Tze Bay, Kaohsiung, Taiwan.
- Shin, H. S. (2009). Reflections on Northern Rock: the bank run that heralded the global financial crisis. *The Journal of Economic Perspectives*, 23(1), 101-119.
- Shleifer, A., & Vishny, R. W. (1997). A survey of corporate governance. *the Journal of Finance*, 52(2), 737-783.
- Stinchcombe, A. L., & March, J. (1965). Social structure and organizations. *Advances in strategic management*, 17, 229-259.
- Sufian, F., & Abdul Majid, M. (2007). Bank ownership, characteristics and performance: A comparative analysis of domestic and foreign Islamic banks in Malaysia. MPRA Paper No. 12131. Retrieved from <http://mpa.ub.unimuenchen.de/12131>.
- Sufian, F., & Chong, R. R. (2008). Determinants of bank profitability in a developing economy: Empirical evidence from the Philippines. *Asian academy of management journal of accounting and finance*, 4(2), 91-112.
- Suna, L., & Changb, T.-P. (2010). A comprehensive analysis of the effects of risk measures on bank efficiency: Evidence.
- Supervisión Bancaria, C. D. B. (2010). Basel III: *International Framework for Liquidity Risk Measurement*, Standards and Monitoring, BIS Report (diciembre).
- Tabachnick, B., & Fidell, L. (2007). Multivariate analysis of variance and covariance. *Using multivariate statistics*, 3, 402-407.
- Tai, C.-S. (2005). Asymmetric currency exposure of US bank stock returns. *Journal of Multinational Financial Management*, 15(4), 455-472.
- Tandelilin, E., Kaaro, H., & Mahadwartha, P. A. (2007). Corporate governance, risk management and bank performance: Does type of ownership matter. *EADN individual research grant project*, 34.

- Tarawneh, M. (2006). A comparison of financial performance in the banking sector: Some Evidence from Omani Commercial Banks. *International Research Journal of Finance and Economics*, 3(3), 101-112.
- Tirole, J. (2008). Liquidity shortages: theoretical underpinnings. *Banque de France Financial Stability Review: Special Issue on Liquidity*, 11, 53-63.
- Umoh, P. (1994). Bank loans, recovery: The roles of the regulatory/supervisory authorities. *Judiciary Law Enforcement Agencies and the Press, NDIC Quarterly*, 4(3), 8.
- Van Greuning, H., & Brajovic-Bratanovic, S. (2009). *Analyzing banking risk: a framework for assessing corporate governance and risk management*: World Bank Publications.
- Vong, A. P., & Chan, H. S. (2009). Determinants of bank profitability in Macao. *Macau Monetary Research Bulletin*, 12(6), 93-113.
- Wagner, W. (2010). Diversification at financial institutions and systemic crises. *Journal of Financial Intermediation*, 19(3), 373-386.
- Warner, J. B., Watts, R. L., & Wruck, K. H. (1988). Stock prices and top management changes. *Journal of Financial Economics*, 20, 461-492.
- Wasiuzzaman, S. Gunasegavan, U.N. (2013) Comparative study of the performance of Islamic and conventional banks: The case of Malaysia", *Humanomics*, Vol. 29.(1). p. 43-60.
- Wen, W. (2010). Ownership Structure and Banking Performance: New Evidence in China. *Universitat Autònoma de Barcelona Departament D'economia de L'empresa*.
- Wooldridge, J. M. (2003). Cluster-sample methods in applied econometrics. *The American Economic Review*, 93(2), 133-138.
- Wooldridge, J. M. (2010). *Econometric analysis of cross section and panel data*: MIT press.
- Yasuda, A. (2003). Do Bank-Firm Relationships Affect Bank Competition in the Corporate Bond Underwriting Market? *Rodney L White Center for Financial Research-Working Papers*.

- Yin, H.-y., Wu, S., & Chen, D.-y. (2002). The impact of regulatory changes on banks' risks and returns in Taiwan *Research in Finance* (pp. 173-198): Emerald Group Publishing Limited.
- Zeitun, R., & Benjelloun, H. (2013). The efficiency of banks and the financial crisis in a developing economy: the case of Jordan. *Journal of Finance, Accounting and Management*, 4(1), 1.
- Zheng, H., & Shen, Y. (2008). Jump liquidity risk and its impact on CVaR. *The Journal of Risk Finance*, 9(5), 477-492.



Appendix A

List of Banks in Jordan and Their Websites

S/N	Bank Name	Websites
1.	Jordan Islamic Bank	http://www.jordanislamicbank.com
2.	Jordan Kuwait Bank	http://www.jkb.com
3.	Jordan Commercial Bank	http://www.jcbank.com.jo
4.	The Housing Bank for Trade and Finance	http://www.hbtf.com
5.	Arab Jordan Investment Bank	http://www.ajib.com
6.	Bank Al Etihad	http://www.bankaletihad.com
7.	Arab Banking Corporation	https://www.bank-abc.com
8.	Invest Bank	http://www.investbank.jo
9.	Capital Bank of Jordan	http://www.capitalbank.jo
10.	Societe Generale de Banque Jordanie	http://www.sgbj.com.jo
11.	Cairo Amman Bank	http://www.cab.jo
12.	Bank of Jordan	http://www.bankofjordan.com
13.	Jordan Ahli Bank	http://www.ahli.com
14.	Islamic International Arab Bank	http://www.iiabank.com.jo
15.	Arab Bank	http://www.arabbank.jo

Source: Central Bank of Jordan (CBJ) annual report, 2015.