



## Liquidity Analysis of UAE Banks

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## Abstract

The aim of this paper is to analyze the liquidity levels of various banks in the UAE for the period 2005-2009. To understand the behavior of liquidity indicators especially during the financial crisis, the researcher will analyze the four liquidity indicators over the years 2005 to 2009. The findings highlight how the banks in question have been impacted by the 2007-2008 crisis. This can most obviously be seen in the notable decline of each of the banks liquidity level in 2009. The effect of loans to total assets, loans to customers' deposit, and investment to total assets ratios for the five banks was most notable in 2009. Two liquidity ratios were analyzed in order to determine the banks' ability to honor its debt obligations, these being loans to total assets and loans to customers respectively. The third ratio was the total equity to total assets to assess the liquidity level in the capital structure, while the fourth ratio was the investment to total assets to measure the managing of liquidity. While Bank liquidity was affected by the crisis, bank performance remained relatively stable, as measured by coefficient of variation, since these banks were able to yield more control over cash flows in comparison to revenues and costs.

**Keywords:** Financial analysis; Bank liquidity; Financial stability; Bank performance; Financial crisis; United arab emirates.

**JEL Classifications:** G1; G21; G28; L25.

## 1. Introduction

Liquidity is a measure of great importance in the study of banking. Arguably one of the most important mechanisms through which banks can repay their debts, it is thus an important data point when assessing the financial health of financial and banking institutions that operate within a given market.

One of the traditional role of banks is to serve as wealth creators, extending capital to those that are deemed fit to repay their loans when they mature. One of the principle sources of funding that banks use to provide loans is the large amount of the capital that has been deposited with them by their customers. Naturally, banks are expected to be able to recover these deposits to their customers in the event that said customers wish to withdraw their deposits. Without adequate liquidity, the ability of the bank to repay its debts, along with the confidence of its depositors, erodes. It is thus of crucial importance that banks have adequate liquid assets to be able to meet the cash demands of its depositors.

Liquidity, more loosely described as a firm's ability to convert its assets into cash, is inextricably linked to the long term survival of any organization. For this reason, liquidity enjoys a high degree of validity when assessing the long term viability of an organization. Its validity in measuring long term stability is just as applicable to the banking sector. In the case of financial institutions, liquidity refers the banks capacity to meet the both the cash demands and contractual obligations to its creditors. An inability of banking organizations to respond accordingly to the cash demands of its depositors can have widespread adverse consequences and in worst cases, lead ultimately to widespread macroeconomic stagnation.

Liquidity risk can best be described as the current and future risk that the bank will fail to fulfill its contractual obligations, which can in turn prove detrimental to the bank's financial stability. Several causative factors may give arise to a situation where a bank's capacity to honor its debts is adversely affected. The primary and most trivial of the factors that can lead to liquidity loss is a sudden and unperceived increase in the value of cash outflows, primarily arising in the form of a large increase in the value of deposit withdrawals. The financial crisis of 2007-2008 can partially be blamed on unpaid mortgages, which in turn caused a freeze in the lending markets, ultimately giving rise to what was popularly termed the "credit crunch".

The banking crisis of 2007-2008 was characterized by an extended period of economic instability. A large number of banks became insolvent as bank runs became more widespread. Banking crises can have serious macroeconomic consequences if not dealt with in an expedient and effective manner. In a worst-case scenario, a bank run may trigger an economic recession that may require years to resolve. This may occur when a bank run,

defined as the widespread withdrawal of savings from banks and other financial institutions by depositors in order to protect their savings, leads to a diminished confidence in the banking sector and the economy as a whole. Panic can spread at an accelerated pace, quickly rendering banks insolvent and spreading financial contagion to and decimating additional industries that are strongly reliant on the financial sectors reserves for funding. To gain a deeper understanding of the mechanism by which banking crises play an influential role on the health of banks, an analysis of liquidity of banks need to be conducted with the purpose of evaluating the validity of the relationship between proven performance ratios and bank stability.

## 2. Literature Review

**Hasan and Dridi (2010)**, sought to examine the overall performance of both Islamic banks and conventional banks under the adverse conditions of the global financial crisis. To test the effects of the crisis on bank performance, the authors used various regression analysis techniques to accurately measure the impact of challenging economic indicators and how they affect the metrics typically associated with bank performance such as profitability, credit, asset growth and external ratings. The results of their analysis indicate that Islamic banks have been affected differently in comparison to conventional banks.

**Ivashina and David (2010)**, studied the effect of the banking panic on the supply of credit to the corporate sector in USA. Their analysis first uncovered inverse relationship between the amount of deposit financing available to banks and the amount of syndicated lending that they take part in namely that banks with more deposit financing cut their syndicated lending by less than did banks without as much access to this, more stable, source of funding. Their additional focus was on the effect of credit-line draw-down on new syndicated lending. Regression analyses were employed on the data obtained from Reuters' Dealscan database. The findings declared the new lending declined substantially during the financial crisis 2008 across all types of loans.

**Munteanu (2012)** analyzed data of 27 banks in Romania over the period 2002-2010 districting between the pre-crisis ears (2002-2007) and the crisis years (2008-2010) to study the effect of several internal and external factors on the net loan/total assets indicator and again on the liquid assets/deposits and short term funding indicator. The results of his two regression models indicate that the crisis brought substantial changes to the structure of bank determinants.

**Akhtar et al. (2011)**, sourced and compiled data from 12 conventional and Islamic banks in Pakistan in order to assess their risk management performance. A multitude of analysis techniques were performed during 2006-2009, namely descriptive, correlation and regression analysis. These techniques were tasked with assessing the relationship between a banks degree of liquidity risk and its predictive effect on other bank performance indicators. The authors found a positive but insignificant relationship between liquidity risk and bank size as well as association between liquidity risk and the net working capital to net asset ratio. The authors also observed a strong and predictive relationship between liquidity risk and capital adequacy ratio for conventional banks. With respect to Islamic Banks, the impact of liquidity risk was most notably seen when measuring a banks return on assets responded to varying degrees of liquidity risk, where a statistically significant relationship was observed.

**Berger and Bouwman (2013)** examines the effect of capital on banks' performance and how this effect varies across the banking crises, market crises as well as under normal circumstances that have largely represented the economic climate in the US over the past quarter century. Regression analysis was conducted to test their hypothesis. The research findings reinforced the importance of capital in insulating a bank from financial turmoil in the event of a widespread economic downturn. Firstly, the authors found that a higher amount capital can significantly improve a small bank's odds of surviving at all times, irrespective of the wider macroeconomic atmosphere. Secondly, the authors found that a higher amount of capital helps medium and large banks improve their financial resilience in times of financial crises.

**Hong et al. (2014)**, calculated both coverage and net stable funding ratios by implementing the requirements of Basel III on US commercial banks using Call Report data for the period of 2001-2011. The call report data include income statements and balance sheets which were obtained from the Federal Reserve Bank of Chicago. The authors also examined the potential links between Basel III liquidity risk measures and the prevalence of bank failures. Basing their analysis on both descriptive and regression analyses, they found that both measures have limited effects on bank failures.

**Mobarek and Alovaddin (2014)**, investigated the performance of Islamic and conventional banks. They used cross-sectional data consisting of 1857 observations obtained from 307 conventional banks and 101 Islamic banks. The data includes information related to the pre-crisis period (2004 to 2006) as well as the crisis period (2007 to 2009) covering 18 Organization of Islamic Cooperation (OIC) Countries. The authors employed two frontier approaches in addition to stochastic frontier analysis to estimate the efficiency levels of banks. Moreover, the Z-Score approach is employed to assess the soundness of banks. The result of their analysis points to a higher degree of efficiency in the manner that conventional banks managed their resources. This is in contrast to the performance of Islamic counterparts, which suffered from relatively poorer management of the financial resources that are available to them.

**Tlemsani and Huda (2016)**, analyzed the performance of Islamic and conventional banking systems in the UAE during the financial crisis. The research was undertaken in two stages. Beginning with comparative analysis of the performance of two banks, one Islamic and one conventional, during the year 2007 and 2008 and concluding with a comprehensive, cross-sectional analysis between eight Islamic and forty three conventional banks during the period 2007 and 2008, the findings of the research showed that on the macro level, both banking sectors were impacted negatively by the crisis. The notable difference between the banks lie in two key areas, levels of liquidity and their

overall exposure to under-performing loans, respectively. The analysis highlighted the key advantage that Islamic banks have in the context of these measures, specifically that Islamic banks were able to preserve a higher percentage of liquidity than conventional banks, all while maintaining a lower exposure to underperforming loans. The latter distinct feature of Islamic Banks, namely the lower levels of exposure to bad debt, has obvious positive implications as it means the Islamic banks debtors are more likely to meet their current and future financial obligations to the given bank, thereby potentially improving and directly contributing to the higher levels of liquidity that Islamic banks also enjoyed.

Hassense and Ben (2016), conducted a comparative study on the level of efficiency among Islamic and conventional banks in Malaysia using various econometric methods composed of three proven ratios in order to assess bank profitability and efficiency. These ratios commonly known a return on assets, return on equity, and cost to income are the widely accepted gold standard in the assessment of bank performance respectively. Financial and econometric analysis found that Islamic banks are significantly more efficient than conventional banks in the way their resources are managed.

Haddad *et al.* (2020), made a comparative study assessing the liquidity levels of Islamic and conventional banks using data from 63 large banks spanning sixteen countries for the period 2010-2018. The authors used both Mann-Whitney test and descriptive statistics. The results of their analysis confirmed that Islamic banks are more liquid than their conventional counterparts.

### 3. Research Methodology

The overall objectives of this research is to study the behavior of liquidity indicators during for the years 2005-2009 on five leading conventional leading private sector commercial banks using proven financial ratios that will notify the author of any changes of a bank's performance over the period 2005-2009. The data used for this research was obtained from the Abu Dhabi financial service company.

In order to accurately measure liquidity performance and make an effective comprehensive comparison of the performance of five banks during the years 2005-2009, this research uses four common indicators of liquidity performance, loan to total assets, loans to customers' deposits, equity to total assets, and investment to total assets indicators. For each indicator, a calculation of financial ratios will be conducted in order to measure bank performance. These indicators will then be ranked for the purposes of comparison. The coefficient of variation will then be used to measure the stability-variability of these ratios over the years 2005-2009.

## 4. Research Results

### 4.1. Loans to Total Assets

This ratio evaluates a banks respective level of liquidity by dividing the total amount of loans by the total amount of assets that a bank possesses. A higher ratio indicates that a bank is offering more loans to the customers and consequently has a lower level of liquidity. In this case, a bank's behavior will be associated with higher level of risk by increasing the level of defaults. The findings showed that RAK bank experienced a high level of loan offerings over the five years with the mean of this ratio standing at 76.41% while the ratio for Mashreq bank is 47.97%. The effect of financial crisis on ratio performance for National union bank was most noticeable in 2009 when this ratio declined from 77.32% in 2008 to 67.04% in 2009. For RAK bank the drop occurred earlier, specifically in 2007 when this ratio experienced a drop from 77.06% in 2006 to 74.47% in 2007, while Mashreq bank first started witnessing a significant decline in 2009 when this ratio declined from 51.94% in 2008 to 44.51% in 2009. Both Commercial Bank International and Commercial Bank of Dubai witnesses a decline in this ratio in 2009 as a response to the financial crisis. RAK bank has a high degree of stability with respect to this ratio as highlighted by the 3.10% coefficient of variation, in comparison with Commercial bank International who has the highest level of instability with coefficient of variation of 13.45%.

Table-1. Loans to Total Assets ratio

Year	National Union	RAK Bank	Mashreq Bank	Commercial Bank International	Commercial Bank of Dubai
2005	59.27	73.41	47.85	56.69	61.13
2006	66.19	77.06	51.81	65.02	67.59
2007	67.40	74.47	43.75	71.55	68.26
2008	77.32	78.66	51.94	82.01	79.93
2009	67.04	78.46	44.51	71.41	77.15
Mean	67.44%	76.41%	47.97%	69.34%	70.81%
Standard deviation	6.44	2.37	3.88	9.44	7.65
Coefficient of Variation	9.55%	3.10%	8.08%	13.45%	10.80%

### 4.2. Loans to Customers Deposits

This ratio shows the ability of a bank in employing the deposits received from customers in order to offer loans. A high ratio score translates to a higher utilization of deposits to offer loans to customers. Consequently, it also typically results in a lower level of bank liquidity. In this analysis, the findings showed that RAK bank is enjoying higher level of this ratio with a mean of 111.41%, which means that this bank is using customers' deposits in addition to other sources of money to offer loans. The National Union bank scored 93.14% of the customers'

deposits to offer loans. Mashreq bank' scored lower ratio of 83.33%. The effect of the financial crisis on this ratio's performance for all banks was most pronounced in 2009, at the eve of the financial crisis, when the ratio declined from 101.93% in 2008 to 99% in 2009 for National Union Bank.. RAK bank was also mainly affected over the same period when the ratio declined from 113.43% in 2008 to 104.51% in 2009. Similarly, the decline in the ratio for Mashreq bank began during the same period, from 94.09% in 2008 to 78.50% in 2009. Similarly, the ratio for Commercial Bank International declined from 117.27% in 2008 to 91.25% in 2009. Finally, the decline for Commercial Bank of Dubai was from 110.61% in 2008 to 101.61% in 2009. Amongst the banks studied, RAK bank proved to possess the highest degree of stability in the utilization of deposits for the provision of loans, with a coefficient of variation of 4.06% while commercial bank international possessed highest level of instability of this ratio with coefficient of variation of 16.91%.

Table-2. Loans to Customers Deposits Ratio

Year	National Union	RAK Bank	Mashreq Bank	Commercial Bank International	Commercial Bank of Dubai
2005	80.29	109.76	74.22	72.96	87.84
2006	91.51	116.47	86.71	91.00	91.91
2007	92.97	112.89	83.11	95.81	98.11
2008	101.93	113.43	94.09	117.27	110.71
2009	99.00	104.51	78.50	91.25	101.61
Mean	93.14	111.41	83.33	93.66	98.84
Standard deviation	8.36	4.53	7.64	15.84	8.87
Coefficient of Variation	8.98%	4.06%	9.17%	16.91%	8.97%

### 4.3. Shareholders' Equity to Total Assets

Equity ratio shows the percentage of shareholders' fund that finance total assets. The higher ratio indicates higher level of liquidity. Table 3 below shows that commercial bank of Dubai got high liquidity to finance its assets with a percentage of 16.43% while the lowest rate is Mashreq bank with a ratio of 13.05%. In 2009, the banks under study have increase this ratio comparing to the year 2008. Both RAK and Commercial Bank International have highest level of stability with coefficient of variation of 6.80% for each while Union National bank has the highest level of instability with coefficient of variation 18.16%.

Table-3. Shareholders' Equity to Total Assets ratio

Years	National Union	RAK Bank	Mashreq Bank	Commercial Bank International	Commercial Bank of Dubai
2005	17.52	13.80	14.98	12.89	18.46
2006	14.00	14.10	14.27	15.11	20.37
2007	11.96	14.37	12.09	14.17	15.64
2008	11.46	14.93	11.80	14.43	13.15
2009	12.52	16.34	14.09	15.40	14.54
Mean	13.49	14.71	13.05	14.40	16.43
Standard deviation	2.45	1.00	1.47	0.98	2.94
Coefficient of Variation	18.16%	6.80%	11.26%	6.80%	17.89%

### 4.4. Investment to Total Assets

This ratio shows the efficiency of a bank in investing some of its money to generate extra revenues. Mashreq bank has higher ratio of investing which formed 20.89% of the years of study while the commercial bank international got the lowest ratio which was 4.35%. The ratio has been declining in 2009 for all banks as a result of the crisis except for national union bank which increased from 5.40% in 2008 to 6.03% in 2009. The Union National bank obtained higher level of stability as it is possess lower coefficient of variation 10.77%, while commercial bank international has higher level of instability as its coefficient of variation is 44.14%.

Table-4. Investment to Total Assets Ratio

Years	National Union	RAK Bank	Mashreq Bank	Commercial Bank International	Commercial Bank of Dubai
2005	6.15	4.37	24.30	6.73	7.45
2006	5.63	5.64	23.43	6.15	5.64
2007	4.63	5.70	17.43	3.12	7.52
2008	5.40	4.63	21.15	2.95	6.25
2009	6.03	2.32	18.16	2.79	5.15
Mean	5.57	4.53	20.89	4.35	6.40
Standard deviation	0.60	1.37	3.06	1.92	1.06
Coefficient of Variation	10.77%	30.24%	14.65%	44.14%	16.56%

## 5. Conclusion

The central objective of this paper has been to conduct a comparative study of the liquidity performance of five banks in United Arab Emirates for the period of 2005-2009 including assessing the effect of financial crisis 2007-2008 on the liquidity indicators of these banks. Four groups of parameters have been used to measure bank liquidity performance. The findings show that the five banks were significantly impacted by the financial crisis. However the five banks remained financially viable as they employed the appropriate financial tools and policies to manage their liquidity and to skillfully adapt to their dynamic environment, resulting in modest liquidity over the period. Four liquidity ratios were analyzed, loans to total assets, loans to customers deposits, equity ratio, and investment to total assets ratio. The negative effect of the crisis on the banks' liquidity was highlighted by the decline in ratio performance in 2009 in comparison to 2008. On the other hand, these banks increased the level of equity to reduce the potential risk and increase liquidity. Different banks possess different levels of stability as using different methods of exerting more control over factors that influenced liquidity.

The inability of the banking sector to properly manage its exposure to liquidity risk culminated in the 2008 financial crisis. The aftermath of the crisis saw increased calls for more scrutiny of the banking sector, leading to the formation of the Basel III Committee on Banking Supervision in 2010. The primary goal of the Basel III committee was to address this perceived widespread financial negligence by setting forth, reinforcing and promoting adherence to a worldwide standard for the measurement and management of liquidity. Some of the Basel III demands included a raise in the minimum capital requirement from 8 percent capital adequacy to 10.5 percent of risk-weighted assets as well as the introduction of two novel measurements of liquidity, namely the liquidity coverage ratio and the net stable funding ratio respectively (Basel Committee on Banking Supervision- BCBS, 2010). The intended use case of the liquidity coverage ratio is to assess a bank's ability to honor the financial obligations that are due in the following 30 days. While the liquidity coverage ratio seeks to make valid predictions about a bank's short time obligations and its ability to meet them, the net stable funding ratio, on the other hand, excels at its purpose of providing a valid forecast of a bank's ability to meet its longer term financial obligations.

Bankers, academics and policy makers alike could derive great benefit in consulting the great cautionary lessons that the 2008 financial crisis serves to provide. This study attempts to provide clarity to those necessary lessons by encouraging banks and policy-makers to examine the influence of liquidity fluctuations on financial institutions and their business operations. Future research should pursue the effect of liquidity on both credit risk and insolvency risk.

## References

- Akhtar, M. F., Khizer, A. and Shama, S. (2011). Liquidity risk management: A comparative study between conventional and Islamic banks of Pakistan. *Interdisciplinary Journal of Research in Business*, 1(1): 35-44.
- Basel Committee on Banking Supervision- BCBS (2010). *Basel iii: International framework for liquidity risk measurement, standards and monitoring*. Bank for International Settlements: Switzerland.
- Berger, A. N. and Udell, C. H. (2013). How does capital affect bank performance during financial crises? *Journal of Financial Economics*, 109: 146-76. Available: <https://doi.org/10.1016/j.jfineco.2013.02.008>
- Haddad, A., EL Ammari, A. and Abdelfattah, B. (2020). Comparative and demonstrative between the liquidity of Islamic and conventional in a financial stability period: Which type of banks is the most liquid? *International Journal of Financial Research*, 11(1): 252-72. Available: <https://doi.org/10.5430/ijfr.v11n1p252>
- Hasan, M. and Dridi, J. (2010). The effects of the global crisis on Islamic and conventional banks, international monetary fund, working paper wp/10/201.
- Hassense, B. M. and Ben, M. K. (2016). The performance of Islamic and conventional banks in Malaysia considering crisis period. *Journal of Business Studies Quarterly*, 8(1): 35-45. Available: <https://doi.org/10.5296/ajfa.v3i1.918>
- Hong, H., Huang, J.-Z. and Deming, W. (2014). The information content of Basel III liquidity risk measures. *Journal of Financial Stability*, 15: 91-111. Available: <https://doi.org/10.1016/j.jfs.2014.09.003>
- Ivashina, V. and David, S. (2010). Bank Lending during the Financial Crisis of 2008. *Journal of Financial Economics*, 97: 319-38. Available: <https://dx.doi.org/10.2139/ssrn.1297337>
- Mobarek, A. and Alovaddin, K. (2014). Comparative Performance Analysis between Conventional and Islamic Banks: Empirical Evidence from OIC Countries. *Applied Economics*, 45(3): 253-70. Available: <https://doi.org/10.1080/00036846.2013.839863>
- Munteanu, L. (2012). Bank liquidity and its determinants in Romania, Sciverse Science Direct. *Procedia Economics and Finance*, 3: 993-98. Available: <https://cyberleninka.org/article/n/450114>
- Tlemsani, I. and Huda, A. I. S. (2016). Comparative analysis of Islamic and conventional banks in the UAE during the financial crisis. *Asian Economic and Financial Review*, 6(6): 298-309.