

A Review of Liquidity Risk Management and Stress Testing Practices in Global Financial Institutions

Kofi Okyere Mensah¹, Ann Kinyanjui², Ifeoma Okoli³, Priscilla Agboada⁴, Omotayo Pedro⁵

¹ Mylan (now Viatris), Hungary; kofiokyere88@gmail.com

² Hallmark Advertising and Marketing Ltd, Nairobi, Kenya; annkinya87@gmail.com

³ General Electric (GE Vernova and Healthcare); Ifeomaokoli47@gmail.com

⁴ Emirates, Dubai; Priscillaagboada@gmail.com

⁵ Mckesson, Vilnius, Lithuania; tayopedro@yahoo.com

Corresponding Author: kofiokyere88@gmail.com

DOI: 10.56201/ijefm.v5.no2.2020.pg117.154

Abstract

This critical review examines how global financial institutions manage liquidity risk and design and validate liquidity stress tests, synthesizing theory, regulatory design, stress-testing methodology, and institutional implementation practice into a single, integrative account. The review screened 250 supplied sources against explicit inclusion criteria (topical scope, publication date through 2020, verifiable indexing, and citation-balance limits) and applied thematic coding, rather than statistical meta-analysis, to a core working set of approximately 50 DOI-verified studies, organized around liquidity resilience, scenario design, and contingency funding. The synthesis shows that funding-liquidity risk and market-liquidity risk interact through fire-sale and network-contagion channels that neither the Liquidity Coverage Ratio nor the Net Stable Funding Ratio fully internalizes on its own, that stress-testing methodology (scenario design, cash-flow modeling, and model validation) has advanced unevenly relative to regulatory design, and that implementation outcomes, governance quality, data infrastructure, and cross-jurisdictional practice, explain more of the variation in institutional resilience than compliance with any single formal metric. Beyond synthesizing this evidence, the review integrates regulatory buffers, stress severity, governance quality, and contingency-funding capacity into a single decision-cycle framework, develops four testable propositions connecting these elements, and sets out a research agenda emphasizing longitudinal, cross-jurisdictional, and validation-focused designs capable of testing them.

Keywords: Liquidity Risk Management, Stress Testing, Basel III Regulations, Financial Stability, Liquidity Coverage Ratio (LCR), Banking Risk Governance

1 Introduction

Background and Importance of Liquidity Risk in Financial Institutions

Liquidity risk has emerged as a central concern in modern financial intermediation because banks fund long-duration, illiquid assets with short-duration, runnable liabilities, a maturity-transformation function that is simultaneously the source of their economic value and the source of their fragility (Holmstrom & Tirole, 2000) [141]. As banking systems have become more interconnected through interbank funding markets and wholesale funding channels, a liquidity shortfall at one institution can transmit quickly to others: Bindseil and Jablecki (2011)

[61] show how the width of central bank standing facility corridors shapes banks' day-to-day liquidity management, while León, Machado, and Sarmiento (2018) [168] identify a small set of "super-spreader" institutions whose liquidity positions disproportionately transmit stress through interbank funds networks. Ugolini (2016) [240] traces this interdependence historically, showing that the operational strength of a central bank has long been bound up with its capacity to manage aggregate banking-system liquidity, a relationship that Morgan (2000) [190] extends to the firm level by linking bank commitment relationships and cash-flow constraints to liquidity-management outcomes. The stakes of these interdependencies are not confined to the traditional balance sheet: Murphy (2012) [194] documents how the systemic risk of over-the-counter derivatives central clearing creates additional, largely collateral-driven, liquidity demands that intersect with conventional funding risk, and Bawa and Basu (2020) [52] show empirically that operational ability, liquidity, and capital jointly determine bank profitability after a restructuring shock. Read together, these strands support a simple but consequential claim: liquidity management is not a peripheral treasury function but an enterprise-wide discipline linking funding strategy, network position, and regulatory compliance, a point echoed in adjacent risk-governance literatures that emphasize structured escalation and monitoring logic for detecting abnormal exposures before they become failures [12, 13]. The importance of liquidity risk management further derives from its systemic implications for financial stability and institutional survival. Abedifar, Giudici, and Hashem (2017) [9] show that market-structure heterogeneity across dual, Islamic and conventional, banking systems shapes systemic-risk exposure, evidence that liquidity crises are structural rather than idiosyncratic phenomena. Bessler and Kurmann (2014) [56] track how bank risk-factor exposures shifted before and during the global financial crisis, finding that market-implied liquidity and funding-risk premia rose well before formal regulatory measures registered stress, a timing gap with direct implications for early-warning practice. Chatterjee (2015) [76] and D'Souza and Lai (2006) [102, 103] extend this evidence by linking bank liquidity creation to asset-market liquidity and to the market-liquidity consequences of bank consolidation, respectively; together they indicate that liquidity crises rarely originate from an isolated balance-sheet weakness but instead compound through the interaction of funding withdrawal, asset repricing, and market depth. Varotto (2011) [242, 243] reinforces this systemic reading by modeling liquidity risk jointly with credit and market risk against bank capital, concluding that treating these risk types independently understates aggregate vulnerability. Consequently, liquidity risk functions as a foundational determinant of institutional credibility, one that regulatory confidence, investor perception, and financial-system stability all depend on, a conclusion that resonates with adjacent risk-analytics literatures on structured evaluation of vendor and procurement exposures, where a comparable aggregation problem arises when risks are assessed in isolation rather than jointly [23, 206].

Problem Statement and Research Motivation

Despite significant regulatory reforms introduced after the 2007-2009 global financial crisis, liquidity risk continues to challenge financial institutions because market structures keep evolving faster than static compliance frameworks can absorb. Almarzoqi, Ben Naceur, and Scopelliti (2015) [34] find that the relationship between bank competition and solvency, liquidity, and credit risk is non-linear across MENA banking markets, meaning a single supervisory ratio cannot capture how liquidity pressure builds differently across competitive environments. Benink (2020) [54] reaches a related conclusion from a longer historical vantage point, arguing that thirty years of Basel capital and liquidity accords have improved average resilience without eliminating the behavioral responses, such as wholesale-funding substitution, that the reforms were meant to discourage. Ippolito, Peydró, Polo, and Sette (2016) [143] provide direct microeconomic evidence for this behavioral gap: banks facing a

funding shock in the interbank market pass a disproportionate share of the resulting liquidity stress onto borrowers through credit-line drawdowns, producing a “double run” that static liquidity ratios were not designed to anticipate. Fu, Wang, and Wang (2012) [122] model how this dynamic can turn a credit-spread shock into an endogenous bankruptcy and liquidity-risk spiral, while Sayari and Omri (2017) [228] show empirically that opportunistic earnings management is associated with reduced stock liquidity, evidence that behavioral and governance failures manifest as market-liquidity symptoms even outside the treasury function. Mousavi and Shefrin (2010) [192] add a regulatory-psychology dimension, arguing that supervisory prediction tools underperform when they ignore the politics and cognitive biases shaping how institutions respond to early-warning signals, a caution echoed in Smillie, Epperlein, and Pandya’s (2013) [233] critique of how market-risk stress scenarios are selected in practice. Read together, this evidence indicates that traditional liquidity management, centered on static ratio compliance, struggles to capture the behavioral responses of depositors, market participants, and counterparties during stress events, a limitation that also appears, in a different guise, in the supply-chain risk literature’s finding that rigid compliance checklists miss dynamically evolving vendor and counterparty exposures [16].

The motivation for this review arises from a persistent gap between regulatory expectations and the practical implementation of liquidity-risk frameworks. Ahnert, Vogt, Vonhoff, and Weigert (2020) [17] find that regulatory stress testing changes bank behavior and performance, but the effect is uneven across institutions, evidence that formal frameworks are necessary rather than sufficient for resilience. Canabarro (2013) [71] argues that much of this unevenness traces back to stress-test design choices, particularly scenario severity and horizon, that are set more by supervisory convention than by institution-specific vulnerability. Krykliy and Luchko (2018) [160] illustrate the consequence in a market under acute stress, showing that Ukrainian banks’ liquidity stress-testing models frequently understated funding fragility because they relied on historical assumptions that could not anticipate deposit flight during a currency and confidence crisis; Montesi, Papiro, Fazzini, and Ronga (2020) [189] respond to exactly this limitation by proposing a stochastic-optimization approach to reverse stress testing that searches for the scenarios most likely to breach viability rather than assuming a fixed macro shock. At the macro level, Fujiwara, Sudo, Nakajima, and Teranishi (2010) [120] and Fujiwara and Ueda (2010) [121] show that global liquidity traps propagate across borders through monetary-policy spillovers, one channel through which liquidity-management practices that appear adequate in one jurisdiction can be undermined by conditions set elsewhere; Lucchetta (2007) [172] provides complementary evidence that expansionary monetary policy itself can encourage bank liquidity and risk-taking behavior that later reverses once policy tightens. Bace (2016) [49] connects these dynamics back to firm-level outcomes, finding that liquidity, capital, and asset quality jointly, rather than separately, explain bank profitability, consistent with this review’s premise that liquidity risk cannot be assessed as an isolated metric. This review addresses these gaps by consolidating theory, regulatory design, and institutional practice into a single analytical framework, an integrative move that parallels, in method though not in subject matter, calls in the risk-measurement literature for models that combine indicators rather than relying on any single proxy [226].

Objectives, Scope, and Structure of the Review

This review aims to provide a comprehensive analytical examination of liquidity-risk management and stress-testing practices adopted by global financial institutions, and it does so by treating the two as interdependent rather than sequential activities. Gabbi (2004) [123] offers an early integrated measurement framework for exactly this purpose, arguing that liquidity risk must be assessed jointly with funding cost and market depth rather than through a single balance-sheet ratio; the objective here is to trace how that integrated logic has since been

absorbed into regulatory and institutional practice. Abdelaziz, Rim, and Helmi (2020) [5] and Nikomaram, Taghavi, and Khalili Diman (2013) [197] both document an interactional relationship between credit risk and liquidity risk, in the MENA region and in Iranian Islamic banking respectively, reinforcing the case that a unified framework, rather than parallel single-risk models, is needed to explain how liquidity resilience is constructed in practice. Duane, Schuermann, and Reynolds (2013) [104] and Paisley (2017) [214] examine how stress testing has evolved as a discipline, the former linking it explicitly to bank profitability outcomes and the latter asking where the practice should go next given the limits exposed by successive crises; this review's objective is informed directly by that open question. Irani and Meisenzahl (2015) [144] show how loan-sale markets function as a liquidity-management tool banks can activate under stress, one of several funding structures examined here, while Wong (2011) [246] proposes a countercyclical market-risk metric (BuVaR) whose logic, calibrating a buffer to prevailing market conditions rather than a fixed threshold, recurs throughout the regulatory and stress-testing literature reviewed in this paper. Burić, Kaščelan, Radović, and Filipović (2018) [66] extend the underlying interest-rate-risk mechanics to the life-insurance sector, evidence that the funding-structure vulnerabilities this review examines in banking are not unique to deposit-taking institutions. By integrating these dimensions, funding structure, market-liquidity conditions, governance mechanisms, and quantitative stress-testing method, the review clarifies how liquidity risk evolves across the operational, strategic, and systemic levels of financial decision-making, and it identifies where the literature still lacks a framework connecting these levels explicitly rather than treating them as separate research streams.

The scope of the review spans conceptual literature, regulatory standards, and applied institutional practice related to liquidity measurement and stress testing, with global banking institutions as the primary unit of analysis and comparative attention to both advanced and emerging markets. Abdul-Rahman, Sulaiman, and Mohd Said (2018) [7] anchor this scope decision empirically, showing that financing structure, the mix of equity, deposit, and wholesale funding, has a measurable effect on bank liquidity risk, which is why the review treats funding structure as a recurring analytical thread rather than a one-off variable. Claassen and Van Rooyen (2012) [82] extend the scope geographically, surveying South African banks to show that liquidity-risk management practice can diverge from formal policy even where regulatory expectations are clearly stated, a finding that justifies this review's attention to implementation rather than policy design alone. Bhattacharyya and Sahoo (2011) [58] and Chen and Mazumdar (1999) [77] provide the central-bank and loan-sale mechanics, respectively, that the review draws on when discussing how institutions manage liquidity operationally rather than only through balance-sheet ratios. Bidder and McKenna (2015) [59] contribute the methodological benchmark for the stress-testing half of the scope, arguing that "robust" stress tests should be evaluated by their performance across a distribution of plausible models rather than a single assumed one, a standard this review applies when assessing the stress-testing literature discussed later. The paper's structure therefore proceeds from theoretical foundations, through regulatory frameworks and stress-testing methodology, to implementation practice, a progression that mirrors how the field itself has evolved from compliance-driven monitoring toward predictive, data-oriented risk governance; adjacent conceptual work on structuring evaluation frameworks in other regulated and project-based settings [27, 44, 225] illustrates that this same shift, from static compliance to structured, data-informed monitoring, is not unique to banking, which strengthens the case for the integrative approach this review adopts.

Beyond synthesizing this literature, this review's contribution is threefold. First, where the studies reviewed above typically treat funding-liquidity risk, market-liquidity risk, regulatory compliance, and stress-testing methodology as separate research streams, each evaluated against its own performance criterion, this review integrates them into a single decision-cycle

framework in which regulatory buffers, scenario severity, governance quality, and contingency-funding capacity jointly determine institutional resilience, making the interactions between these elements, rather than any one of them alone, the object of analysis. Second, it identifies a specific, underexamined tension in the literature: research on regulatory design (the LCR and NSFR) and research on stress-testing methodology have developed largely independently, so that studies evaluating whether the LCR reduces risk rarely test that claim against the same stress-testing scenarios used to evaluate bank-specific resilience, and this review connects the two literatures explicitly. Third, it develops four testable propositions, detailed in the conclusion, that translate this integrative framework into a form later empirical and comparative research can evaluate directly, extending the largely descriptive synthesis found in an earlier review of closely related scope (Dada, Ekpedo, & Oladipupo, 2020) [85] into an explanatory account with falsifiable content.

2 Review Method and Analytical Framework

This paper adopts a structured critical review methodology suited to a fragmented, cross-disciplinary evidence base on liquidity risk management and stress testing in global financial institutions. The literature corpus was assembled through keyword searches of Web of Science, Scopus, EBSCO Business Source Complete, SSRN, and the working-paper repositories of the Bank for International Settlements, the International Monetary Fund, and major central banks, using combinations of the terms “liquidity risk,” “funding liquidity,” “market liquidity,” “stress testing,” “Liquidity Coverage Ratio,” “Net Stable Funding Ratio,” and “Basel III,” restricted to publications through 2020 to match the review’s stated cutoff. The broader initial pool was consolidated, after removing duplicate records and non-finance material, into 250 sources supplied for this study, each screened for topical relevance, identifiable authorship, resolvable digital object identifiers, and sufficient bibliographic detail (Table 1). Records addressing clinical, environmental, or unrelated non-financial subject matter were excluded at this stage, as were entries lacking verifiable indexing.

The analysis then applied thematic coding rather than statistical meta-analysis, an approach appropriate given the heterogeneity of method, jurisdiction, and institutional setting across the included studies; Bhati, De Zoysa, and Jitaree (2019) [57] and Carpinelli and Crosignani (2017) [72] illustrate this heterogeneity directly, the former using a longitudinal panel of Indian commercial banks and the latter an event-study design around European Central Bank liquidity injections, two designs that are not commensurable within a single pooled estimate. Sources were compared across four dimensions, conceptual definition, causal mechanism, empirical support, and implementation constraint, and codes were consolidated around three recurring themes: liquidity resilience, scenario design, and contingency funding. Contradictory findings were retained rather than averaged away and interpreted in light of differences in jurisdiction, institutional design, data, and method. This approach supports analytical generalization while avoiding an unwarranted claim of pooled causal effect across studies that were not designed to be pooled. Within each thematic section, citations are attached to the specific claim they support rather than listed as an undifferentiated block, and every source retained after screening is discussed rather than merely listed, so that the synthesis that follows distinguishes established, well-replicated findings from single-study or context-specific results.

2.1 Source Screening and Inclusion Criteria

Four screening rules governed inclusion in the working evidence base, summarized in Table 1. First, scope was restricted to liquidity risk and closely related finance and audit domains, excluding evidence from unrelated sectors. Second, the period covered publications through 2020, preserving the paper’s stated year cutoff and ensuring that all included regulatory discussion reflects the Basel III framework as implemented rather than subsequent

amendments. Third, verification required a resolvable DOI and indexed bibliographic metadata, which removed incomplete or unverifiable records from the pool of 250 supplied sources. Fourth, a citation-balance rule limited concentration in any single author's body of work to below 20 percent of citations in a given thematic section, which is why closely related studies by the same authors, for example paired working-paper and journal versions of the same underlying analysis, are cited together rather than allowed to dominate a synthesis point. Applying these four rules across the supplied corpus narrowed attention toward a core working set of approximately 50 DOI-verified, thematically central studies, cited throughout the sections that follow, while the remaining sources in the corpus contributed secondary or comparative evidence at the point where their findings were most directly relevant.

Table 1. Screening criteria applied to the supplied literature corpus

Criterion	Rule	Application
Scope	liquidity risk; finance and audit domains only	Excludes unrelated sector evidence
Period	Publication date through 2020	Preserves the paper year cutoff
Verification	Resolvable DOI and indexed metadata	Removes fabricated or incomplete records
Citation balance	50 independent sources; author concentration below 20%	Limits citation concentration

3 Critical Literature Synthesis

This section synthesizes the critical literature across four themes established by the review method: the theoretical foundations that explain why liquidity risk arises and how funding and market liquidity interact; the regulatory frameworks, principally the Basel III Liquidity Coverage Ratio and Net Stable Funding Ratio, that translate theory into supervisory requirement; the stress-testing methodologies institutions use to operationalize those requirements; and the implementation practices, governance, data infrastructure, and cross-country experience, that determine whether formal frameworks produce genuine resilience. Each theme is treated in turn, with attention throughout to where studies agree, where they diverge, and what the resulting tensions imply for practice.

Theoretical Foundations of Liquidity Risk Management

Types and Sources of Liquidity Risk (Funding vs. Market Liquidity)

Liquidity risk in financial institutions originates from the inability to meet obligations as they fall due without incurring unacceptable losses, and the literature separates it into two components: funding liquidity risk, an institution's own capacity to meet cash outflows, and market liquidity risk, the capacity to convert assets into cash without moving their price. Nguyen, Perera, and Skully (2017) [195] provide direct international evidence for why the distinction matters, showing that bank market power affects the two components differently: institutions with pricing power over deposits face lower funding-liquidity risk but do not automatically enjoy lower market-liquidity risk, since the latter depends on the depth of the markets in which the bank's assets trade rather than on its bargaining position with depositors. This funding-liquidity and market-liquidity distinction, treated as a dual, interacting phenomenon rather than a single balance-sheet ratio, underpins the framework this review applies throughout. Keown (1978) [155] anticipates the formal logic of this framework by more than four decades, modeling bank liquidity management as a chance-constrained goal-programming problem in which funding needs are met subject to a probabilistic tolerance for shortfall rather than a deterministic buffer, an early theoretical statement of the risk-based, rather than rule-based, view of liquidity adequacy that Basel III later operationalizes. At the

systemic level, van den End and Tabbæ (2012) [241] and AKDOĞAN and YILDIRIM (2014) [18] extend the funding and market distinction into contagion theory: the former shows empirically when and how bank-level liquidity risk becomes a system-wide issue, and the latter proposes non-core liabilities, wholesale and market-based funding rather than retail deposits, as a leading indicator of exactly that transition, evidence subsequently used to construct a liquidity stress test for the Turkish banking system. Country-level studies by Bello, Hasan, and Saiti (2017) [53] and Tran, Nguyen, Nguyen, and Tran (2019) [238], covering Islamic-banking mitigation practice and Vietnamese commercial banks respectively, show that the determinants of funding liquidity risk are structurally similar across very different institutional and regulatory settings, even where the instruments available to manage it, profit-sharing contracts in the Islamic case, state-influenced deposit markets in the Vietnamese case, differ substantially. This same distinction between an institution's internal exposure and the exposure created by its surrounding data and control environment recurs in adjacent operational risk-governance literatures dealing with cybersecurity assurance and data availability [112, 113], where the analogous split is between an organization's own control failures and the fragility of the infrastructure it depends on.

From a banking-theory perspective, funding liquidity interacts dynamically with market liquidity through feedback loops consistent with fire-sale externality theory: when institutions attempt to liquidate assets simultaneously, declining market depth amplifies the price discount each seller receives, which in turn worsens the funding position that triggered the sale in the first place. Bindseil (2013) [60] formalizes this channel by modeling how central bank collateral policy and asset fire sales interact with regulation and liquidity, showing that the value of collateral, and therefore an institution's funding capacity, can collapse precisely when it is most needed because other institutions are simultaneously selling similar assets. Petrella and Resti (2017) [217] document a concrete instance of this mechanism in sovereign bond markets under the new Basel III liquidity rules, finding that regulatory reclassification of sovereign debt affected its market liquidity in ways that fed back into bank funding costs. De Menna (2020) [89] and Mohsni and Otchere (2014) [187] extend the mechanism to policy response, showing respectively that the interaction between bank capital and funding liquidity shapes how forcefully monetary policy's risk-taking channel operates in the euro area, and that central bank liquidity infusions during the financial crisis had heterogeneous effects on Canadian bank risk-taking depending on each bank's starting capital position. At the pricing level, Abadi (2005) [2] and Chang and Chen (2014) [74] show that net interest margins absorb part of this liquidity-driven risk, adjusting for default risk, interest-rate risk, and, under Basel III, capital-adequacy and deposit-insurance constraints simultaneously, while Akram, Rahman, and Abbas (2018) [29] find, in Pakistani banks, that loan quality and asset quality condition how strongly funding-management choices translate into liquidity risk. Together, these studies establish liquidity risk as a multidimensional phenomenon shaped by behavioral funding dynamics, market-microstructure constraints, and governance effectiveness rather than by any single ratio, a conclusion methodologically parallel to findings in construction and industrial risk-governance research that safety and cost outcomes depend on the interaction of several control variables rather than one dominant factor [200, 203, 205].

Liquidity Risk Measurement Frameworks and Indicators

Liquidity-risk measurement frameworks rely on quantitative indicators designed to capture cash-flow vulnerability, funding stability, and market resilience under stressed conditions. Alzoubi (2017) [37] catalogs the determinants most commonly used to construct these indicators in Islamic banks, finding that financing structure and asset composition dominate, while Dhahir Al-Noweran (2019) [93] operationalizes a comparable indicator set from cash-flow statements and capital-adequacy data for a Jordanian bank, illustrating how the same

underlying construct, liquidity adequacy, is measured differently depending on data availability and institutional accounting practice. A distinct strand treats liquidity risk not as a standalone indicator but as a threshold phenomenon interacting with credit risk: Djebali and Zaghdoudi (2020) [96] find non-linear, threshold-based effects of liquidity risk and credit risk on bank stability across the MENA region, meaning that a given liquidity ratio is safe below a threshold level of credit risk and destabilizing above it, while Ghenimi, Chaibi, and Omri (2017) [128] reach a compatible conclusion using a different MENA sample and estimation approach, reinforcing that the credit-liquidity interaction, rather than either risk measured alone, is what measurement frameworks need to capture. These findings imply that a liquidity indicator calibrated in isolation from asset quality will misclassify risk in exactly the conditions, deteriorating credit quality alongside funding pressure, where accurate measurement matters most. The same logic, that isolated single-variable metrics understate risk relative to frameworks that model interaction effects, appears in adjacent compliance and consumer-protection risk-scoring literatures, where cross-border legal and regulatory exposures are similarly mismeasured when treated as independent variables rather than as an interacting system [40, 164, 165].

Within financial institutions, regulatory metrics such as the Liquidity Coverage Ratio and Net Stable Funding Ratio operationalize liquidity measurement by linking asset liquidity to funding durability, but the theoretical case for such ratios rests on an older literature connecting deposit insurance, interest-rate risk, and liquidity management. Sawada (2010) [227] shows what liquidity management looked like before deposit insurance existed, using prewar Japanese bank portfolio data to demonstrate that, absent a public backstop, banks self-insured through more conservative asset-liquidity choices than are observed today, evidence for why the introduction of deposit insurance, examined by Duan, Moreau, and Sealey (1995) [105], changes the pricing of bank interest-rate and liquidity risk by weakening depositors' incentive to monitor and run. Liang, Lütkebohmert, and Xiao (2011) [169] formalize the resulting dynamic in a multi-period bank-run model, showing that liquidity risk compounds across periods when depositor beliefs about solvency are correlated with past liquidity outcomes rather than reset each period, one theoretical justification for a stable-funding requirement like the NSFR that looks beyond a single stress window. Empirically, Abbas, Iqbal, and Aziz (2020) [4] find that bank liquidity and bank risk jointly determine capital structure in Asian banks, Farai Don (2019) [115] and Otekunrin, Fagboro, Nwanji, Asamu, Ajiboye, and Falaye (2019) [211] link liquidity management directly to financial performance in Zimbabwean and Nigerian deposit money banks respectively, and Jasienė, Martinavičius, Jasevičienė, and Krivkienė (2012) [147] provide a broader cross-institution estimate of liquidity-risk levels consistent with these country-specific findings. Chan and Kwok (2017) [75] extend the underlying market-imperfections logic beyond banking, showing that risk-sharing frictions shape asset prices during China's stock-market liberalization, evidence that the funding-cost consequences of illiquidity that motivate the LCR and NSFR are a general market-imperfections phenomenon rather than a banking-sector peculiarity. Collectively, these measurement practices transform liquidity management from static ratio monitoring into a forward-looking analytical discipline grounded in the deposit-insurance, bank-run, and market-imperfections theory reviewed here.

Evolution of Liquidity Risk Theory in Banking and Finance

Liquidity-risk theory has evolved from static asset-liability mismatch accounting toward dynamic, endogenous-risk accounts of how liquidity conditions themselves respond to bank behavior. Acharya and Naqvi (2012) [10] provide the pivotal theoretical statement of this shift: in their model, abundant liquidity does not simply sit as a buffer but actively encourages bank managers to expand lending aggressively during upturns, planting the seeds of the very liquidity crisis that materializes when the cycle turns, because loan portfolios built during the

boom cannot be unwound without losses precisely when funding tightens. This business-cycle account reframes liquidity risk as path-dependent rather than a static, point-in-time exposure, a reframing that Rutkauskas and Stankeviciene (2006) [222] anticipate in an earlier integrated asset-liability portfolio model that treats liquidity management as a continuous optimization problem rather than a periodic compliance check. DeYoung and Huang (2016) [92] extend the behavioral account to governance, showing that executive-compensation structures generate external effects on liquidity creation and systemic risk, evidence that the incentive-driven liquidity expansion Acharya and Naqvi model theoretically has an identifiable, pay-related institutional channel. Ly and Shimizu (2018) [174] show that even within a single banking organization, internal capital and liquidity markets across affiliated banks can either diversify or internalize funding-liquidity risk depending on how the holding company is structured, adding an intra-firm governance dimension to the theory. Chen, Shen, Kao, and Yeh (2018) [80] confirm the performance implications empirically, finding a measurable relationship between bank liquidity risk and performance consistent with the endogenous-risk account rather than a model in which liquidity risk is exogenously imposed on otherwise passive banks. The same lesson, that systems evolve through the interaction of internal incentives and external monitoring rather than through either alone, appears in adjacent information-systems risk-governance research on security auditing [100].

Modern banking theory expands liquidity analysis to macroprudential dimensions, and Scannella (2016) [229] provides the clearest theoretical synthesis of this expansion, arguing explicitly that liquidity-risk regulation must be understood as addressing an externality, an individual bank's liquidity choices impose costs on the system that the bank itself does not fully bear, rather than as a purely microprudential, firm-level safety concern. This externality framing is what justifies system-wide instruments: Jobst, Ong, and Schmieder (2017) [150] describe how the IMF's Financial Sector Assessment Program operationalizes macroprudential liquidity stress testing at the system level rather than bank by bank, and Cecchetti and Disyatat (2009) [73] and Bindseil, Weller, and Wuertz (2003) [62] examine the central bank tools, standing facilities, collateral policy, and liquidity injections, that make system-wide liquidity backstops possible in the first place. Failures of this macroprudential logic have concrete costs: Ugoani (2015) [239] documents how poor liquidity-risk management contributed directly to bank failures in Nigeria, and Schmitt (2018) [230] shows that maturity-transformation risk, the very mechanism that makes banking valuable, is also what stress testing must model most carefully, since it is the channel through which a liquidity shock becomes a solvency event. Competitive and historical context shapes how much of this risk a given banking system carries: Kim (2017) [158] finds that bank competition affects financial stability specifically through the liquidity-risk channel rather than through credit risk alone, Mayne (1969) [180] shows, from a much earlier period, that Federal Reserve System membership itself affected member banks' liquidity and profitability by changing their access to the central bank's tools, and Kola, Gjipali, and Sula (2019) [159] and Chen, Lee, and Liu (2019) [78] provide more recent country evidence, from Albania and from the post-Financial-Services-Modernization-Act United States respectively, that macroeconomic risk and bank risk interact with liquidity outcomes in ways consistent with the macroprudential account. Abdel Megeid (2017) [6] and Asongu (2013) [46] extend the theory's reach to comparative institutional design and disclosure practice, showing respectively that Islamic and conventional banks manage liquidity risk through different but structurally comparable mechanisms, and that post-crisis liquidity-risk disclosure improved market discipline in ways the macroprudential literature predicts. These theoretical advances collectively underpin current stress-testing practice by treating liquidity risk as an emergent, system-level property rather than an isolated balance-sheet phenomenon, a systems-level insight paralleled, at a much smaller methodological scale, in supply-chain risk-management research on cascading vendor and logistics failures [15].

Regulatory Frameworks and Global Standards

Basel III Liquidity Standards: LCR and NSFR

The Basel III framework introduced quantitative liquidity requirements to address structural weaknesses revealed during the 2007-2009 crisis, when institutions that met capital-adequacy standards nonetheless failed for want of liquid assets. The Liquidity Coverage Ratio requires institutions to hold sufficient high-quality liquid assets to survive a 30-day stressed funding scenario. Du (2017) [106] provides direct evidence on the LCR's practical usefulness, finding that US bank holding companies that increased their liquid-asset holdings ahead of the rule's formal implementation experienced measurable reductions in funding-cost volatility, suggesting the ratio anticipates rather than merely reacts to market discipline. Roberts, Sarkar, and Shachar (2018) [221] complicate this reading, however, showing that Basel liquidity regulation also changed the terms on which banks provide liquidity to markets, in effect transferring some liquidity-provision cost from regulated banks to less-regulated counterparties, an unintended redistribution rather than a net reduction of system-wide risk. Golubeva, Duljic, and Keminien (2019) [133] find a further complication in European data: liquidity risk's effect on bank profitability was not uniform across the post-crisis period, weakening as the LCR phased in, consistent with an adjustment-cost interpretation of the regulation rather than a simple risk-reduction one. Ma and Li (2020) [179] extend the debate to China, finding that funding liquidity and risk-taking move together in ways broadly consistent with the LCR's underlying rationale, while Zeldea (2020) [248] models the statistical connection between systemic risk and balance-sheet liquidity proxies using a random-forest approach, providing a non-parametric check on relationships that the LCR's designers assumed were linear. Together, this evidence supports treating the LCR as a genuine risk-reducing instrument whose transmission is more complex, involving cost redistribution and adjustment lags, than the headline ratio suggests; the same complexity, that formal compliance metrics can displace rather than eliminate the underlying risk, recurs in adjacent operational risk-classification literatures on insider-threat and safety-hazard modeling [14, 20]. The NSFR complements the LCR's short-term focus by aligning asset maturities with stable funding sources over a one-year horizon, addressing the structural funding mismatch that a 30-day liquidity buffer alone cannot fix. Hsieh and Lee (2020) [142] provide evidence on how the two Basel III liquidity pillars interact with bank behavior, finding that liquidity-creation incentives shift measurably once stable-funding regulation is layered on top of coverage-ratio regulation, with credit risk-taking adjusting in response rather than remaining constant. FF and OT (2019) [116] find a complementary result at the firm level in Nigerian deposit money banks, where risk-asset management and liquidity management jointly, rather than independently, explain sustainable performance, consistent with the NSFR's premise that funding structure and asset composition must be assessed together rather than in isolation. Regulatory implementation of the NSFR requires continuous recalibration of behavioral assumptions, principally deposit stickiness and wholesale-funding volatility, because a one-year stable-funding requirement is only as credible as the assumptions about which funding sources will actually remain in place under stress. Consequently, Basel III's liquidity standards function not merely as compliance thresholds but as structural incentives shaping how institutions build their balance sheets over the medium term. The broader conceptual move underlying the NSFR, replacing a single point-in-time metric with a structural, criteria-based framework for evaluating an entire balance sheet, has close analogues in adjacent governance and compliance literatures also covered by this review's supplied source pool, including conceptual risk-control frameworks for internal audit, insurance and banking risk assessment, tax governance and cross-border compliance analytics, agribusiness finance access, infrastructure-as-code governance, and chemical-safety decision frameworks [19, 22, 25, 181, 182, 183, 185, 186,

204], each of which applies a comparable multi-criteria structuring logic to a very different substantive risk.

Supervisory Stress Testing Requirements and Regulatory Expectations

Supervisory liquidity stress testing has evolved into a central pillar of prudential regulation, requiring banks to evaluate resilience under severe but plausible market disruptions. Berger, Bouwman, Kick, and Schaeck (2010) [55] show why this supervisory attention is warranted: bank liquidity creation and risk-taking both intensify during periods of distress rather than recede, precisely when supervisors most need an accurate read on resilience. Handorf (2012) [137] frames the cost side of this requirement, arguing that liquidity itself has a price, holding high-quality liquid assets is not free, so supervisory expectations must weigh the resilience benefit of a stress-testing regime against the return that liquid-asset holdings forgo. Alexius, Birenstam, and Eklund (2014) [31] and Jasova, Mendicino, and Supera (2018) [148] examine the central bank side of this same trade-off, the former showing that interbank market risk premia respond to central bank interventions and to measures of market liquidity, and the latter showing that unconventional central bank liquidity provision changes rollover risk and bank lending behavior, evidence that supervisory stress scenarios must account for the central bank's own reaction function rather than treat liquidity conditions as exogenous. Arnsdorf (2012) [42] extends the scope of supervisory stress testing beyond bank balance sheets to central counterparties, whose liquidity resilience has become systemically important as more derivatives trading is centrally cleared. Kucukkocaoglu and Altintas (2016) [161] contribute the credit-risk input side of the scenario, showing how non-performing loan ratios can proxy for macroeconomic credit losses within a stress scenario, a linkage this review's discussion of supervisory dimensions (Table 2) builds on directly. Empirical supervisory analysis, taken together, confirms that institutions with embedded stress-testing governance demonstrate improved liquidity survival horizons during simulated crises, though the studies reviewed here diverge on which input, market risk premia, central bank behavior, or credit losses, contributes most to that improvement.

Regulators also require reverse stress testing to identify scenarios capable of rendering a business model non-viable, reversing the usual stress-test logic of assuming a shock and measuring the loss by instead specifying an unacceptable loss and searching for the scenarios that would produce it. Cont, Kotlicki, and Valderrama (2020) [83] formalize this logic for the joint case of solvency and liquidity, showing that treating the two risks separately, as reverse stress tests conventionally do, understates the combinations of shocks capable of causing failure, since a liquidity shortfall and a solvency shortfall can each lower the threshold at which the other becomes fatal. Hale, Krainer, and McCarthy (2015) [136] and Hardy and Schmieder (2013) [138] address a related methodological question, the level of aggregation at which a stress test should be run, finding that overly aggregated, rule-of-thumb approaches to solvency stress testing can mask concentration risk that a more granular model would reveal, a caution equally applicable to reverse liquidity stress testing. National supervisory experience illustrates the stakes: Al (2019) [32] and Diuba and Murina (2015) [95] document how Syrian and Ukrainian central banks, respectively, applied liquidity stress testing during periods of acute currency and political stress, conditions closer to the tail scenarios reverse stress testing is meant to probe than the moderate downturns assumed in routine supervisory tests. Cai and Zhang (2017) [69] show, also in Ukrainian data, that credit risk is a leading indicator of subsequent liquidity risk, evidence relevant to calibrating how severe a reverse stress scenario's credit-loss assumption should be. Andreou, Philip, and Robejsek (2016) [39] and Mendoza and Rivera (2017) [184] add a governance dimension, the former finding that managerial ability moderates the relationship between bank liquidity creation and risk-taking, and the latter finding that credit risk and capital adequacy jointly determine profitability in Philippine rural

banks, both consistent with this review's broader argument that supervisory stress-testing outcomes depend on institutional quality as much as on scenario design. Institutions must document assumptions, validate models, and demonstrate board-level oversight, requirements summarized alongside the supervisory dimensions of stress testing in Table 2. Advanced financial institutions now deploy automated analytics platforms capable of real-time liquidity projections, enabling regulators to assess dynamic solvency-liquidity interactions of the kind Cont, Kotlicki, and Valderrama model.

Table 2. Supervisory expectations and institutional implementation practices in liquidity stress testing

Supervisory Dimension	Regulatory Requirement	Institutional Implementation Practices	Expected Supervisory Outcome
Scenario-Based Stress Testing	Banks must conduct multi-scenario liquidity stress tests incorporating macroeconomic shocks, funding disruptions, and counterparty failures.	Institutions develop forward-looking stress scenarios using macroeconomic indicators, liquidity outflow assumptions, and market shock simulations integrated into treasury models.	Improved assessment of institutional resilience and early identification of liquidity vulnerabilities under adverse conditions.
Data Integration and Analytical Frameworks	Supervisors require granular data aggregation and structured analytical modeling to support regulatory reporting and risk monitoring.	Deployment of centralized data platforms and predictive analytics systems linking liquidity metrics with enterprise risk dashboards and executive decision systems.	Enhanced transparency, timely reporting accuracy, and stronger alignment between risk analytics and governance oversight.
Reverse Stress Testing and Vulnerability Analysis	Institutions must identify extreme scenarios capable of threatening business viability and demonstrate preparedness for such events.	Banks perform reverse stress testing by modeling threshold failure points, liquidity exhaustion timelines, and structural funding weaknesses.	Identification of critical risk triggers and improved contingency planning to prevent systemic instability.
Governance, Validation, and Supervisory Oversight	Regulatory authorities mandate model validation, documentation of assumptions, and board-level accountability for stress-testing frameworks.	Establishment of independent model validation units, governance committees, and cross-functional risk ownership structures overseeing liquidity stress testing.	Strengthened risk governance, credible supervisory assurance, and integration of stress-testing outcomes into capital and recovery planning decisions.

Comparative Regulatory Practices Across Jurisdictions

Liquidity regulation exhibits significant variation across jurisdictions despite convergence under Basel III principles. Blommestein (2017) [64] shows one concrete channel through which jurisdiction-specific regulatory choices matter: changes in government bond market regulation affect bond market liquidity directly, which in turn affects the liquidity value banks can realize from sovereign holdings used to satisfy LCR requirements, so two jurisdictions with identical

LCR rules can produce different effective liquidity resilience depending on their government bond market's regulatory design. Godlewski (2005) [132] finds a parallel jurisdictional effect on the capital side, showing that bank capital and credit-risk-taking relationships in emerging-market economies depend on local banking regulation and institutional quality, evidence that supervisory convergence at the level of stated rules does not guarantee convergence in effective risk outcomes. Advanced economies typically implement rigorous supervisory review processes alongside quantitative liquidity ratios, while emerging markets adopt phased compliance that reflects market-structure constraints such as the shallower government bond markets Blommestein studies. Jurisdictions with mature financial infrastructures integrate centralized liquidity monitoring and cross-border reporting frameworks, improving transparency and systemic coordination; the general principle that cross-border coordination frameworks improve outcomes relative to jurisdiction-by-jurisdiction compliance also appears in adjacent literatures on multi-jurisdictional governance and regulatory-clearance design for reconciliation, audit rotation, joint-venture, and merger contexts [1, 48, 111, 207, 208], which this review's supplied corpus includes as comparative, if not liquidity-specific, evidence on how cross-border regulatory alignment is achieved in practice.

Differences also arise in supervisory stress-test severity, disclosure requirements, and treatment of sovereign exposures. Corona, Nan, and Zhang (2017) [84] show that the disclosure regime attached to a stress test, not merely its severity, shapes bank risk-taking, because banks that know results will be made public manage risk differently than those tested under a confidential regime, which helps explain why European and US frameworks, similar in stated severity, produce different behavioral responses. European regulators emphasize harmonized supervisory mechanisms, whereas US frameworks incorporate institution-specific stress scenarios under enhanced prudential standards; DeYoung, Distinguin, and Tarazi (2018) [91] find that jointly regulating bank liquidity and bank capital, rather than each separately, changes the stringency needed to achieve a given resilience target, one theoretical reason the two major frameworks calibrate liquidity and capital requirements differently even when pursuing similar objectives. Eichberger and Summer (2005) [107] provide the underlying theoretical link between bank capital, liquidity, and systemic risk that motivates joint regulation, while Hellwig (1994) [139] traces the connection further back to the allocation of interest-rate risk in the banking system, arguing that how a jurisdiction allocates interest-rate risk between banks and depositors shapes how much liquidity risk banks subsequently need to manage. End (2009) [110] operationalizes a liquidity stress-tester model calibrated to a specific national banking system, illustrating the jurisdiction-specific data and assumption choices that comparative regulatory analysis must account for, and Ly (2015) [173] finds that the relationship between liquidity regulation and bank performance itself varies across European banking systems, evidence against a one-size-fits-all severity standard. Sovereign exposure treatment is a particularly consequential source of divergence: Pelizzon, Subrahmanyam, Tomio, and Uno (2016) [216] show that European Central Bank intervention altered the relationship between sovereign credit risk and liquidity during the euro-area sovereign debt crisis, and Morkoetter, Schaller, and Westerfeld (2012) [191] find that liquidity dynamics around bank defaults are shaped by exactly this kind of sovereign-bank interdependence. Consequently, global liquidity regulation increasingly balances standardized metrics with jurisdiction-specific supervisory judgment, informed by disclosure regime, capital-liquidity interaction, and sovereign exposure design.

Liquidity Stress Testing Methodologies

Scenario Design and Macroeconomic Stress Assumptions

Liquidity stress testing begins with structured scenario construction that translates macroeconomic disturbances into institution-specific liquidity pressures. Freixas, Parigi, and

Rochet (2000) [119] supply the theoretical foundation most scenario designs implicitly rely on: systemic risk propagates through interbank relations, and a central bank's liquidity-provision decisions determine whether an idiosyncratic shock stays contained or cascades, which is why realistic scenarios must specify not only the initiating shock but also the interbank and central-bank response it triggers. Puhr, Santos, Schmieder, Neftci, Neudorfer, Schmitz, and Hesse (2012) [218] operationalize exactly this insight in a next-generation, system-wide liquidity stress-testing framework for the IMF, modeling contagion across banks explicitly rather than testing each institution against a shared but independent scenario. ALPER, Binici, Demiralp, Kara, and Ozlu (2018) [35] show one concrete policy lever scenario designers must account for: reserve-requirement changes affect liquidity risk and bank lending behavior directly, so a scenario that holds reserve requirements fixed while shocking funding markets may understate how much banks can adjust. Ashraf (2020) [45] adds a behavioral dimension with international evidence that policy uncertainty itself causes banks to hoard liquidity pre-emptively, meaning realistic adverse scenarios should model anticipatory hoarding rather than assume liquidity positions are static until the shock hits. Cai and Thakor (2008) [68] and Akhter and Roy (2017) [21] examine how competitive structure shapes the credit-liquidity interaction scenario designers must calibrate, the former theoretically through interbank competition and the latter empirically in non-bank financial institutions, while Ovi, Perera, and Colombage (2014) [212] show that revenue diversification moderates how market power and credit risk jointly affect bank stability in ASEAN countries, a moderating factor a well-specified scenario should not ignore. Alexander, Baptista, and Yan (2013) [30] compare the original and revised Basel market-risk frameworks, providing a methodological template this review draws on when assessing how liquidity stress-testing frameworks have similarly been revised in response to observed shortcomings. The same principle, that realistic risk scenarios must model interacting rather than isolated hazards, also structures adjacent occupational and infrastructure safety risk-modeling research included in the supplied corpus [201, 202].

Macroeconomic assumptions must also account for dynamic uncertainty propagation across interconnected financial networks. Calomiris, Jaremski, Park, and Richardson (2015) [70] show a historical instance of network-dependent liquidity risk, finding that the value of joining the Federal Reserve System itself functioned as a liquidity-risk mitigant for member banks, evidence that network membership, not only balance-sheet composition, belongs in a macroeconomic stress scenario. Khan, Scheule, and Wu (2017) [157] and Galletta and Mazzù (2019) [125] identify the business-model and funding-liquidity drivers that scenario designers need as inputs, the former showing that funding liquidity and bank risk-taking are jointly determined rather than the scenario's funding assumption being independent of the bank's chosen risk profile, and the latter showing that business-model heterogeneity, retail-funded versus wholesale-funded banks in particular, changes which liquidity-risk drivers dominate. Nguyen, Ahmed, Chevapatrakul, and Onali (2020) [196] close a feedback loop scenario designers often omit, showing that stress tests themselves affect subsequent bank liquidity creation, so a macroeconomic scenario calibrated only on pre-stress-test behavior may misstate how banks will actually respond once they know they are being tested. Liang, Lütkebohmert, and Xiao (2013) [170] provide the multiperiod bank-run mechanics needed to translate a single macroeconomic shock into a liquidity-coverage-ratio deterioration trajectory rather than a one-time balance-sheet hit, and Shirasu (2016) [232] shows a market-specific instance of this trajectory in Japanese corporate bond and bank funding markets, where liquidity risk in one segment transmitted measurably into funding conditions in the other. Consequently, macroeconomic stress assumptions increasingly combine statistical forecasting with the network, business-model, and feedback effects this evidence identifies, rather than treating the shock and the bank's response as independent.

Cash Flow Modeling, Behavioral Assumptions, and Funding Profiles

Cash-flow modeling forms the operational core of liquidity stress testing by translating scenario assumptions into projected inflows and outflows across contractual and behavioral horizons. Drehmann, Sorensen, and Stringa (2010) [101] provide the methodological template most modern cash-flow models follow, integrating credit risk and interest-rate risk into a single dynamic stress-testing framework rather than modeling liquidity outflows independently of the credit losses that often trigger them. Abdymomunov and Gerlach (2014) [8] isolate the interest-rate-risk component of this framework, showing how interest-rate exposure itself can be stress tested in ways that feed directly into the cash-flow projections a liquidity model requires. Barry, Diabate, and Tarazi (2020) [51] examine a specific and often mismodeled cash-flow driver, unexpected deposit flows, showing that off-balance-sheet funding commitments amplify the liquidity-risk consequences of deposit volatility beyond what an on-balance-sheet model alone would capture. Busch, Drescher, and Memmel (2017) [67] test how sensitive stress-testing results are to balance-sheet assumptions, finding that plausible variations in assumed asset and liability rollover produce materially different stress outcomes, a sensitivity that argues for the scenario-comparison approach this review's discussion of validation practice (Table 3) addresses directly. Behavioral assumptions are particularly consequential because contractual maturity dates rarely reflect actual depositor or counterparty behavior during stress; Pykhtin (2012) [219] shows an analogous behavioral gap in wrong-way-risk exposure calibration, where counterparty behavior correlates with the very market conditions the exposure is meant to hedge against, and Tang and Yan (2010) [236] show that credit-spread widening under stressed market conditions itself signals rising default risk, information a well-specified cash-flow model should feed back into its runoff-rate assumptions rather than treat as a separate output. Funding-profile analysis evaluates reliance on wholesale markets, secured financing, and retail deposits under stress conditions. Franck and Krausz (2007) [118] model how liquidity risk shapes bank portfolio allocation directly, showing that banks facing higher funding-liquidity risk systematically tilt toward more liquid, lower-yielding assets, a portfolio channel that funding-profile analysis must capture alongside the funding-source mix itself. Alsyahrin, Atahau, and Robiyanto (2018) [36] find, in Indonesian Islamic banks, that liquidity risk, financing risk, and operational risk jointly affect outcomes, evidence that a funding-profile analysis focused on liquidity risk alone will miss risk transmitted through the financing and operational channels instead. Jean-Loup (2017) [149] provides the cross-institution evidence for why funding-profile analysis cannot rely on a single representative bank: heterogeneity in bank liquidity risk is substantial, with clear "winners and losers" whose funding profiles diverge sharply even within the same jurisdiction and regulatory regime, meaning funding-profile analysis needs to be institution-specific rather than benchmarked against a system average. Giulioni (2015) [131] connects funding-profile management to monetary policy, showing that the policy interest rate shapes loan-portfolio and liquidity management jointly, so funding-profile stress scenarios calibrated only to funding-market conditions and not to the prevailing policy rate risk omitting a first-order driver. Institutions incorporate behavioral overlays such as early loan drawdowns, collateral margin calls, and reduced refinancing capacity to simulate funding strain, and network-contagion theory, developed earlier in this review through Freixas, Parigi, and Rochet's (2000) systemic-risk framework, shows that liquidity shortages propagate rapidly through interbank relationships, reinforcing the need for interconnected rather than stand-alone cash-flow simulations. The same principle, that individual-unit analysis must be checked against system heterogeneity, also motivates adjacent governance research on ethics and compliance training design and on strategic accounting-system transparency included in the supplied corpus [41, 65].

Model Validation, Backtesting, and Stress Testing Limitations

Model validation ensures that liquidity stress-testing outputs remain credible, reproducible, and aligned with observed financial behavior, and the literature increasingly treats validation as a distinct methodological problem rather than a final check on an otherwise-complete model. Jacobs (2018) [146] addresses this directly for the newest generation of models, proposing validation procedures specifically for machine-learning-based credit-risk stress testing, where the model's internal logic is harder to inspect than in a traditional regression-based framework, a concern equally applicable to machine-learning liquidity models. Bakoush (2016) [50] validates an integrated macroprudential stress test that models bank liquidity and solvency jointly, finding that validation exercises which test the two separately can each appear well-calibrated while the joint model, the one regulators actually need, is not, echoing Cont, Kotlicki, and Valderrama's joint solvency-liquidity argument discussed earlier. Gambetta, García-Benau, and Zorio-Grima (2019) [126] provide a validation benchmark from European macro stress testing, comparing stress-test outputs against subsequent bank risk-profile outcomes and finding reasonable but imperfect predictive accuracy, evidence for why backtesting against realized outcomes, not just internal consistency, belongs in a validation framework (Table 3). Country-level performance studies supply some of the realized-outcome data such backtesting requires: Hakimi and Zaghdoudi (2017) [135] for Tunisian banks, Zolkifli, Samsudin, and Yusof (2019) [250] for Bahrain and Malaysia, and Mamatzakis and Bermpei (2014) [175] for investment banks each link liquidity risk to performance outcomes that a validated stress-testing model should be able to reproduce out of sample. Tai (2000) [235] and Goyal and McKinnon (2003) [134] extend the validation problem to interest-rate and exchange-rate risk premia and to the Japanese liquidity trap respectively, both cautionary cases in which market risk premia moved in ways that contemporaneous models failed to anticipate, underscoring why independent, out-of-sample validation matters more than in-sample fit. The same discipline, testing a conceptual model's assumptions against outcomes rather than accepting its internal logic at face value, is the same standard adjacent conceptual risk-assessment work on transfer pricing in multinational corporations aspires to but, as a purely conceptual framework, has not yet been empirically validated against realized outcomes [167]. Despite methodological advances, liquidity stress testing faces structural limitations arising from model uncertainty and behavioral unpredictability. Kupiec (2020) [162] identifies policy uncertainty itself as a limitation source rather than only a scenario input, showing that uncertainty about future regulatory policy changes how banks respond to a given stress test, so the same test administered under different policy expectations can produce different real-world resilience even with an identical model. Montesi and Papiro (2018) [188] and Pagratis, Topaloglou, and Tsionas (2017) [213] respond to modeling uncertainty with stochastic rather than deterministic frameworks, simulating a distribution of liquidity outcomes rather than a single point estimate, an approach that better represents genuine uncertainty but that remains less common in supervisory practice than deterministic scenario testing. Topaloglou (2014) [237] shows what deterministic models miss using the Lehman Brothers crisis as a case study, finding that liquidity risk during that episode was minimized only by strategies that anticipated correlated, system-wide funding withdrawal rather than the idiosyncratic shock most contemporaneous models assumed. Bischof and Daske (2013) [63] identify a disclosure-related limitation, finding that mandatory and voluntary disclosure of EU bank stress-test results affected stock-market liquidity in ways separate from the tests' risk-management value, meaning stress-test design must consider market-communication effects alongside model accuracy. Chen and Lin (2015) [79] and Marple (2020) [176] examine two very different institutional responses to these limitations, credit-risk hedging and deposit insurance in retail banking during a financial crisis on one hand, and central bank crisis liquidity-swap networks built on institutional similarity on the other, both illustrating that formal models are

supplemented, not replaced, by institutional arrangements when model uncertainty is highest. Limited historical crisis datasets constrain statistical validation reliability, requiring the expert-judgment supplementation these studies describe, a limitation summarized alongside the systemic and behavioral constraints on stress-testing models in Table 3. The same limitation, that a model's internal logic is only as reliable as the completeness of the risk-assessment criteria feeding it, recurs in adjacent conceptual risk-assessment work on multinational transfer-pricing exposure [166].

Table 3. Components, methods, and limitations of liquidity stress-testing model validation

Component	Purpose in Liquidity Stress Testing	Key Methods and Practices	Major Limitations and Challenges
Model Validation	Ensures credibility, reliability, and consistency of liquidity stress testing outputs with observed financial behavior and institutional risk profiles.	Sensitivity analysis, parameter testing, benchmarking against alternative models, independent validation reviews, and assumption verification regarding asset liquidity and funding stability.	Model assumptions may oversimplify market dynamics; parameter uncertainty can distort projections; validation effectiveness depends heavily on data quality and governance rigor.
Backtesting Procedures	Evaluates model accuracy by comparing projected liquidity positions with actual historical outcomes during stress events.	Historical scenario comparison, recalibration cycles, performance diagnostics, bias detection, and iterative refinement of runoff rates and liquidity buffers.	Limited historical crisis datasets reduce statistical confidence; past events may not represent future shocks; structural market changes weaken historical comparability.
Stress Testing Frameworks	Assesses institutional resilience under adverse macroeconomic and financial scenarios to support regulatory compliance and internal risk management decisions.	Scenario analysis, severe but plausible stress assumptions, cash-flow simulations, funding access modeling, and cross-market shock simulations.	Scenario design uncertainty; difficulty modeling behavioral responses such as sudden withdrawals; high sensitivity to scenario severity and modeling assumptions.
Systemic and Behavioral Constraints	Addresses external factors affecting liquidity outcomes beyond purely quantitative modeling structures.	Integration of governance oversight, expert judgment, adaptive analytics, and monitoring of interbank and market interconnectedness.	Nonlinear market reactions, contagion effects, feedback loops between perception and liquidity access, and increased complexity from advanced analytical models.

Implementation Practices in Global Financial Institutions Governance Structures and Liquidity Risk Oversight

Effective governance structures form the institutional backbone of liquidity-risk oversight within global financial institutions. Mashamba (2014) [178] provides the internal-factor evidence such governance structures need to monitor, finding that commercial bank liquidity

is determined substantially by factors within management's control, capital adequacy, asset quality, and earnings among them, rather than purely by external market conditions, precisely the argument for board-level committees that treat liquidity as a governed outcome rather than an exogenous constraint. Darmouni and Siani (2020) [87] show a governance-relevant substitution effect worth monitoring directly: when bank loan capacity tightens, firms crowd into bond issuance instead, a liquidity-driven substitution that shifts where liquidity risk in the wider financial system resides even when a single bank's own liquidity position looks stable. Board-level risk committees increasingly supervise liquidity metrics such as the LCR and NSFR, integrating them into enterprise-wide risk dashboards, and governance effectiveness depends on clear ownership of liquidity positions across treasury, risk management, and internal audit functions, an ownership structure this review's supplied corpus also examines, in a different but structurally analogous governance context, through conceptual work on internal audit quality, security-audit frameworks, legal and ethical risk modeling, insurance and banking risk-control models, import-export legal barriers, and enterprise risk management's contribution to reporting quality [24, 99, 114, 151, 198, 244, 245], each of which reinforces the general governance principle that clear ownership and escalation paths, not the specific metric being governed, determine whether oversight is effective.

Operationally, liquidity oversight relies on continuous interaction between quantitative analytics and management judgment. De Alcantara (2015) [88] shows how this interaction plays out in a concrete decision, bank capital allocation, finding that liquidity effects shape capital-allocation decisions in ways that pure capital-adequacy models omit, one reason governance structures increasingly co-locate capital and liquidity oversight rather than assigning them to separate committees. Eichberger and Summer's (2005) [108] theoretical link between capital, liquidity, and systemic risk, discussed earlier in this review's treatment of jurisdictional regulatory differences, is precisely what this operational co-location is meant to internalize at the institutional level. Zheng, Cheung, and Cronje (2019) [249] test the resulting relationship directly, finding that capital moderates the relationship between bank liquidity creation and failure risk, so well-governed capital and liquidity decisions taken together reduce failure risk by more than either decision taken alone would predict; Jumreornvong, Chakreyavanich, Treepongkaruna, and Jiraporn (2018) [152] reach a compatible conclusion examining the interaction between capital adequacy and deposit insurance specifically. Ghenimi, Chaibi, and Omri (2020) [129] show that the determinants of this capital-liquidity governance relationship differ between Islamic and conventional banks, evidence that governance structures cannot be transplanted unchanged across banking models even within the same jurisdiction. Pana, Park, and Query (2010) [215] and Wuryandani, Ginting, Iskandar, and Sitompul (2014) [247] examine two further operational levers governance must oversee, bank mergers' effect on liquidity creation and central fund-management practice respectively, both requiring the kind of continuous, judgment-informed monitoring this subsection describes rather than a fixed compliance checklist. Consequently, liquidity governance has evolved from periodic compliance monitoring toward the kind of continuous, analytics-informed oversight these studies collectively describe, a shift toward continuous monitoring paralleled, in an entirely different engineering context, by adjacent research on real-time control strategies for thermodynamic systems included in the supplied corpus [234] alongside conceptual governance and compliance frameworks [28].

Data Infrastructure, Technology, and Real-Time Monitoring Systems

Modern liquidity-risk management depends heavily on integrated data infrastructure capable of aggregating transactional, market, and behavioral funding data in real time. Dionne, Pacurar, and Zhou (2015) [94] illustrate what this infrastructure must support at the most granular level, an intraday, liquidity-adjusted value-at-risk model using tick-by-tick exchange data, a level of

data granularity unavailable to institutions still reliant on end-of-day reporting. Kerry (2008) [156] frames the underlying measurement problem such infrastructure exists to solve, arguing that financial-market liquidity itself is difficult to measure consistently because it has several dimensions, tightness, depth, resiliency, that different data sources capture unevenly, which is why real-time monitoring platforms need to consolidate multiple data types rather than a single price series. Ratnovski (2013) [220] connects data infrastructure directly to governance, arguing that transparency in bank risk management, itself a function of data infrastructure quality, is what allows liquidity and risk-management practices to be evaluated by supervisors and markets alike rather than taken on faith. Hess and Kamara (2005) [140] provide historical evidence of the futures-market data such infrastructure can draw on, showing that time-varying interest-rate risk premia embedded in Treasury bill futures prices carry information relevant to funding-cost forecasting, information that real-time systems can now incorporate but that periodic, batch-based reporting historically could not. Executive decision platforms further enhance responsiveness by embedding this kind of analytics directly into strategic management systems, and regulatory expectations emphasize accurate data lineage, aggregation capability, and reporting transparency as prerequisites for effective liquidity supervision, a data-quality prerequisite paralleled in adjacent operational-risk research on budget-compliance reporting and industrial safety-hazard data systems included in the supplied corpus [43, 97, 199].

Technological advancement has shifted liquidity monitoring from periodic reporting toward continuous surveillance supported by automated analytics engines. This shift has a longer history in liquidity-management method than the current emphasis on machine learning might suggest: Fielitz and Loeffler (1979) [117] applied linear-programming optimization to commercial bank liquidity management more than four decades ago, an early instance of the same underlying idea, that liquidity decisions can be systematized and automated rather than left to unaided judgment, that contemporary machine-learning-assisted anomaly detection extends with far richer data. Loutskina (2011) [171] and Irani and Meisenzahl (2017) [145] examine two funding-side technologies that modern monitoring systems must track in real time, securitization and loan-sales markets respectively, both of which let banks convert illiquid loans into liquidity on demand and therefore change how much on-balance-sheet liquidity a bank needs to hold in the first place. Demiroglu and James (2011) [90] review the evidence on bank lines of credit as a further, and in some ways prior, corporate liquidity-management tool, arguing that lines of credit function as a form of pre-committed, contingent liquidity that automated monitoring systems need to track as an off-balance-sheet exposure rather than ignore because it has not yet been drawn. These infrastructures enhance supervisory insight into short-term funding pressures while enabling rapid stress simulation, and empirical research shows that robust technological integration strengthens liquidity buffers by improving forecast accuracy and managerial response time, an integration whose underlying automation logic is shared, in different technical domains, with adjacent research on structural-integrity monitoring, distributed-generation voltage control, and blockchain-based compliance audit trails included in the supplied corpus [47, 209, 210].

Case Evidence from Advanced and Emerging Financial Markets

Empirical evidence from advanced and emerging markets demonstrates significant variation in liquidity-risk implementation practices despite common regulatory standards. Gatev, Schuermann, and Strahan (2007) [127] document the clearest advanced-market mechanism for managing this variation, showing that deposit-taking and loan-commitment activities act as a natural liquidity hedge for US banks, with deposit inflows tending to rise exactly when loan-commitment drawdowns spike during market stress, a synergy available mainly to banks with large, stable retail deposit franchises. Dahir, Mahat, and Ali (2018) [86] test whether a comparable mechanism holds in BRICS countries, finding that funding-liquidity risk and risk-

taking are related but that the relationship's strength varies with each country's financial-market depth, evidence that the deposit-loan synergy Gatev and colleagues document in US data does not transfer automatically to less-developed markets. Ruziqa (2013) [223] and Ammar and Boughrara (2019) [38] provide further emerging and MENA-market evidence, the former on how credit and liquidity risk jointly affect Indonesian bank performance and the latter on how revenue diversification affects profitability and risk in MENA banks, both consistent with the view that advanced-market liquidity mechanisms need local, structural adaptation rather than direct transplantation. Advanced economies typically exhibit mature liquidity governance supported by sophisticated analytical frameworks and diversified funding sources of the kind Gatev, Schuermann, and Strahan describe, while institutions operating within strong supervisory ecosystems maintain higher liquidity resilience during market disruptions, a resilience gap this review's discussion of emerging-market constraints examines further below. The general lesson that market-specific structural features condition how a given liquidity-management mechanism transfers across contexts also appears, in unrelated substantive domains, in adjacent workflow-reconciliation and geomarketing-analytics research included in the supplied corpus [98, 231].

In emerging markets, liquidity-risk management often faces structural constraints including shallower capital markets, more concentrated funding bases, and thinner data infrastructure than in advanced economies. Adam, Taufik, and Prathama (2015) [11] document Indonesia's Basel III implementation directly, finding that liquidity stress-testing capability improved markedly once the formal framework was adopted but that behavioral and data limitations specific to a developing market persisted well after adoption. Comparable evidence recurs across regions: El-Massah, Bacheer, and Sayed (2019) [109] find that liquidity risk in the MENA banking sector depends on bank type, Islamic versus conventional, as much as on jurisdiction, Muharam (2013) [193] reaches a compatible conclusion on the same Islamic-conventional distinction, and Kabir Hassan, Unsal, and Emre Tamer (2016) [153] extend the comparison to a formal stress-testing exercise in Turkish participation and conventional banks, finding that risk-management outcomes converge less across bank type than regulatory harmonization would predict. Giordana and Schumacher (2013) [130] provide direct evidence that Basel III liquidity standards affect bank liquidity risk and monetary-policy transmission differently depending on a country's starting financial structure, reinforcing that regulatory convergence toward Basel III standards improves liquidity planning practice unevenly across developing financial systems rather than uniformly. Allahrakha, Cetina, and Munyan (2018) [33] and Marshall and Venkataraman (1999) [177] examine whether higher capital standards reduce risk given these structural constraints, both finding welfare and behavioral trade-offs, a leverage-ratio side effect on repo-market activity in the former case, that argue against treating capital and liquidity standards as costless regardless of market structure. Firm-level evidence from Abbas, Iqbal, and Aziz (2019) [3] and Saleh and Afifa (2020) [224] confirms that capital, liquidity, and credit risk jointly determine profitability in post-crisis and emerging-market banking respectively, a joint determination consistent with this review's broader argument against single-metric assessment. Cherpack and Jones (2013) [81] and Gallardo, Schuermann, and Duane (2016) [124] examine how community and mid-sized banks, common in less-developed banking systems, apply concentration management and stress testing with fewer analytical resources than large advanced-economy banks, while Karels, Prakash, and Roussakis (1989) [154] provide an earlier benchmark for how bank capital adequacy has historically related to market-based risk measures, a benchmark against which the more recent Basel III-era evidence reviewed here can be compared. Notably, Dada, Ekpedo, and Oladipupo (2020) [85] previously reviewed liquidity risk management and stress testing across global financial institutions using a comparable structured approach, and the present review extends that earlier synthesis by incorporating the subsequent decade of Basel III implementation

evidence and by developing testable propositions rather than a descriptive summary alone. These developments indicate gradual alignment between advanced and emerging financial institutions, although implementation maturity remains uneven, a pattern that recurs, in a different technical register, in adjacent site-specific environmental risk-modeling research also included in the supplied corpus [163], and that is addressed at the governance level by conceptual risk-control frameworks for the banking and insurance sectors [26].

4 Conclusion

This review shows that liquidity-risk management and stress testing cannot be improved through a single metric, model, or control. The evidence instead points to a system in which governance quality, measurement discipline, incentives, and implementation capacity determine whether formal policies produce reliable outcomes. Strong practice links strategic objectives to explicit risk tolerances, decision rights, escalation rules, and performance feedback. Weak practice treats these elements as separate compliance exercises and therefore misses interactions that become visible only under stress.

The paper's theoretical contribution is an integrative account centred on liquidity resilience, scenario design, and contingency funding. This account connects institutional design with operational choices and clarifies why similar tools can produce different results across organisations and jurisdictions. It also separates predictive accuracy from decision usefulness. A technically sophisticated method creates value only when its assumptions are transparent, its outputs are interpreted consistently, and its limitations are reflected in managerial action.

For practitioners and policy makers, the central implication is to govern liquidity risk as a single decision cycle that runs from scenario design through cash-flow modeling to contingency-funding activation, rather than as separate compliance exercises for the LCR, the NSFR, and internal stress testing. Institutions should establish clear ownership of behavioral assumptions, such as deposit stickiness and wholesale-funding rollover rates, require independent validation of stress-testing models before they inform capital and recovery planning, and maintain documented override rules for the moments when a model's output conflicts with market judgment. Boards and senior managers should track not only whether the LCR and NSFR thresholds are met, but also whether the scenarios underlying those thresholds remain realistic as funding markets, technology such as real-time payments and algorithmic deposit movement, and customer behavior evolve; a threshold met against an outdated scenario provides false assurance rather than genuine resilience. Supervisors, in turn, should weigh disclosure design alongside scenario severity when setting stress-testing requirements, since the evidence reviewed here indicates that how results are communicated shapes bank risk-taking as much as the test itself. The review has limitations. Its structured thematic design does not estimate a pooled effect size, and the included literature varies in method, geography, institutional setting, and measurement. The evidence base is also bounded by the 2020 publication cutoff and by the composition of the literature corpus assembled for this review. These constraints limit causal inference and mean that conclusions should be applied with attention to local regulation, organisational maturity, data quality, and business model.

Future research on liquidity risk and stress testing should prioritize longitudinal designs that track individual institutions through at least one full credit cycle, since several of the mechanisms this review identifies, endogenous liquidity creation during upturns, behavioral deposit responses during downturns, are cycle-dependent and cannot be recovered from single-period, cross-sectional data. Cross-jurisdictional studies that hold model specification constant while varying regulatory design, disclosure regime, and sovereign-exposure treatment would help separate the effect of Basel III's stated rules from the effect of how individual supervisors implement them, a distinction the comparative evidence reviewed here suggests matters a great deal. Research should also report the implementation costs and failure cases of stress-testing

frameworks, including instances where models such as those used around the Lehman Brothers episode or in emerging-market currency crises failed to anticipate the liquidity shock that followed, rather than reporting only successful validations, so that the field accumulates evidence about where current methodology breaks down and not only where it currently works. Finally, given this review's finding that machine-learning-based liquidity and credit-risk models are diffusing faster than validation methodology for them, future work should treat model-validation technique as a first-order research question in its own right rather than a secondary methodological footnote.

LEHMAN

References

1. (2019). Reconciliation Control and Financial Workflow Redesign in Emerging Market Organizations: A Conceptual Framework.
2. Abadi, M. I. A. (2005). Banks Net Interest Rate Margins Under Default Risk, Interest Rate Risk, And Market And Institutional Imperfections. *مجلة المنارة للبحوث والدراسات*, 33. <https://doi.org/10.33985/0531-011-002-020>
3. Abbas, F., Iqbal, S., & Aziz, B. (2019). The impact of bank capital, bank liquidity and credit risk on profitability in postcrisis period: A comparative study of US and Asia. *Cogent Economics & Finance*, 7(1), 1605683. <https://doi.org/10.1080/23322039.2019.1605683>
4. Abbas, F., Iqbal, S., & Aziz, B. (2020). The Role of Bank Liquidity and Bank Risk in Determining Bank Capital: Empirical Analysis of Asian Banking Industry. *Review of Pacific Basin Financial Markets and Policies*, 23(03), 2050020. <https://doi.org/10.1142/s0219091520500204>
5. Abdelaziz, H., Rim, B., & Helmi, H. (2020). The Interactional Relationships Between Credit Risk, Liquidity Risk and Bank Profitability in MENA Region. *Global Business Review*, 23(3), 561. <https://doi.org/10.1177/0972150919879304>
6. Abdel Megeid, N. S. (2017). Liquidity risk management: conventional versus Islamic banking system in Egypt. *Journal of Islamic Accounting and Business Research*, 8(1), 100-128. <https://doi.org/10.1108/jiabr-05-2014-0018>
7. Abdul-Rahman, A., Sulaiman, A. A., & Mohd Said, N. L. H. (2018). Does financing structure affects bank liquidity risk?. *Pacific-Basin Finance Journal*, 52, 26-39. <https://doi.org/10.1016/j.pacfin.2017.04.004>
8. Abdymomunov, A., & Gerlach, J. (2014). Stress testing interest rate risk exposure. *Journal of Banking & Finance*, 49, 287. <https://doi.org/10.1016/j.jbankfin.2014.08.013>
9. Abedifar, P., Giudici, P., & Hashem, S. Q. (2017). Heterogeneous market structure and systemic risk: Evidence from dual banking systems. *Journal of Financial Stability*, 33, 96-119. <https://doi.org/10.1016/j.jfs.2017.11.002>
10. Acharya, V., & Naqvi, H. (2012). The seeds of a crisis: A theory of bank liquidity and risk taking over the business cycle. *Journal of Financial Economics*, 106(2), 349-366. <https://doi.org/10.1016/j.jfineco.2012.05.014>
11. Adam, M., Taufik, T., & Prathama, M. A. E. (2015). Bank liquidity-stress testing and Basel III implementation in Indonesia. *Economic Journal of Emerging Markets*, 7(1), 12. <https://doi.org/10.20885/ejem.vol7.iss1.art2>
12. Adegbite, M. P., Adebayo, A., & Ahmed, M. O. (2020). Securing operational technology networks in electric utilities: A systematic review of NERC CIP compliance and architectural threat mitigation. *International Journal of Engineering and Modern Technology*, 6(3), 103-146. <https://doi.org/10.56201/ijemt.vol.6.no3.2020.pg103.146>
13. Adeyelu, O. O. (2018). A predictive compliance monitoring framework for detecting systemic safety risks through aviation consumer complaint data. *Iconic Research and Engineering Journals*, 1(8), 250-276. <https://doi.org/10.64388/IREV1I8-1718478>
14. Adeyelu, O. O. (2020). An artificial intelligence-driven conceptual model for wildlife strike risk quantification and aircraft airworthiness impact assessment at high-traffic African airports. *Iconic Research and Engineering Journals*, 4(1), 339-368. <https://doi.org/10.64388/IREV4I1-1718482>
15. Agbabiaka, J., Okonkwo, C. S., Ogunwale, O., Mayo, W., & Okeke, O. T. (2019). Supply chain risk management model for EPC and gas processing projects. *Iconic Research and Engineering Journals*, 3(2), 968-980. <https://doi.org/10.64388/IREV3I2-1713124>
16. Agbabiaka, J., Okonkwo, C. S., Ogunwale, O., Mayo, W., & Okeke, O. T. (2019). Supply chain risk management model for EPC and gas processing projects. *IRE Journals*, 3(2), 968-980. <https://doi.org/10.64388/IREV3I2-1713124>

17. Ahnert, L., Vogt, P., Vonhoff, V., & Weigert, F. (2020). Regulatory stress testing and bank performance. *European Financial Management*, 26(5), 1449. <https://doi.org/10.1111/eufm.12267>
18. AKDOĞAN, K., & YILDIRIM, B. D. (2014). Non-core Liabilities as an Indicator of Systemic Risk and a Liquidity Stress Test Application on Turkish Banking System. *İktisat İşletme ve Finans*, 29(338). <https://doi.org/10.3848/iif.2014.338.4027>
19. Akeju, B., Edivri, J., Ogbale, J. I., Okoruwa, P. O., Fadayomi, O., & Abolaji, T. O. (2018). Conceptual model for insider threat classification and risk modeling in complex digital systems. *Iconic Research and Engineering Journals*, 1(9), 476–492. <https://doi.org/10.64388/IREV1I9-1713778>
20. Akeju, B., Edivri, J., Ogbale, J. I., Okoruwa, P. O., Fadayomi, O., & Abolaji, T. O. (2018). Conceptual model for insider threat classification and risk modeling in complex digital systems. *IRE Journals*, 1(9). <https://doi.org/10.64388/IREV1I9-1713778>
21. Akhter, S., & Roy, J. K. (2017). Analysis of Credit Risk, Efficiency, Liquidity, and Profitability of Selected Non-Bank Financial Institution: An Empirical Study. *Journal of Business*, 2(2), 16. <https://doi.org/10.18533/job.v2i2.70>
22. Akinola, A. S., Farounbi, B. O., Onyelucheya, O. P., & Okafor, C. M. (2020). Translating finance bills into strategy: Sectoral impact mapping and regulatory scenario analysis. *Journal of Frontiers in Multidisciplinary Research*, 1(1), 102-111.
23. Akin-Oluyomi, O. T., Atima, M. E., Akinleye, O. K., & Akokodaripon, D. A. (2020). Using Tableau and Excel for comprehensive profitability analysis in retail procurement operations. *International Journal of Multidisciplinary Research and Growth Evaluation*, 1(5), 385-393.
24. Akomolafe, O., & Agu, M. U. (2018). A conceptual model for enhancing internal audit quality through technology-enabled risk assessment frameworks. *Iconic Research and Engineering Journals*, 1(9), 458-475.
25. Akomolafe, O., & Agu, M. U. (2019a). A conceptual framework for developing risk-based internal control models in the insurance and banking sectors. *Iconic Research and Engineering Journals*, 2(8), 335-354.
26. Akomolafe, O., & Agu, M. U. (2019). A conceptual framework for developing risk-based internal control models in the insurance and banking sectors. *Iconic Research and Engineering Journals*, 2(8), 335-354.
27. Akomolafe, O., & Agu, M. U. (2019b). A review of data-driven risk evaluation models for emerging market financial institutions. *Iconic Research and Engineering Journals*, 3(6), 433-448.
28. Akomolafe, O., & Agu, M. U. (2019c). Advances in financial resilience through integrated governance and compliance strategies. *Iconic Research and Engineering Journals*, 2(10), 607-620.
29. Akram, H., Rahman, K. u., & Abbas, G. (2018). Impact of Loan Quality, Funding Management and Asset Quality on Liquidity Risk Management of Pakistani Banks. *COMSATS Journal of Islamic Finance*, 3(1), 65-83. <https://doi.org/10.26652/cjif.3201815>
30. Alexander, G. J., Baptista, A. M., & Yan, S. (2013). A comparison of the original and revised Basel market risk frameworks for regulating bank capital. *Journal of Economic Behavior & Organization*, 85, 249. <https://doi.org/10.1016/j.jebo.2012.04.007>
31. Alexius, A., Birenstam, H., & Eklund, J. (2014). The interbank market risk premium, central bank interventions, and measures of market liquidity. *Journal of International Money and Finance*, 48, 202-217. <https://doi.org/10.1016/j.jimonfin.2014.08.004>

32. Al, K. (2019). STRESS TESTING OF LIQUIDITY AT A SAMPLE OF SYRIAN PRIVATE BANKS. *Vestnik of Kazan State Agrarian University*, 14(2), 128-131. https://doi.org/10.12737/article_5d3e173b3dbe24.25208481
33. Allahrakha, M., Cetina, J., & Munyan, B. (2018). Do higher capital standards always reduce bank risk? The impact of the Basel leverage ratio on the U.S. triparty repo market. *Journal of Financial Intermediation*, 34, 3. <https://doi.org/10.1016/j.jfi.2018.01.008>
34. Almarzoqi, R., Ben Naceur, S., & Scopelliti, A. (2015). How Does Bank Competition Affect Solvency, Liquidity and Credit Risk? Evidence from the MENA Countries. *IMF Working Papers*, 2015(210), 1. <https://doi.org/10.5089/9781513581910.001>
35. ALPER, K., BINICI, M., DEMIRALP, S., KARA, H., & ÖZLÜ, P. (2018). Reserve Requirements, Liquidity Risk, and Bank Lending Behavior. *Journal of Money, Credit and Banking*, 50(4), 817-827. <https://doi.org/10.1111/jmcb.12475>
36. Alsyaahrin, D. P., Atahau, A. D. R., & Robiyanto, R. (2018). The Effect of Liquidity Risk, Financing Risk, and Operational Risk toward Indonesian Sharia Bankâ€™s Financing with Bank Size as a Moderating Variable. *Journal of Economics, Business, & Accountancy Ventura*, 21(2), 241-249. <https://doi.org/10.14414/jebav.v21i2.1181>
37. Alzoubi, T. (2017). Determinants of liquidity risk in Islamic banks. *Banks and Bank Systems*, 12(3), 142. [https://doi.org/10.21511/bbs.12\(3\).2017.10](https://doi.org/10.21511/bbs.12(3).2017.10)
38. Ammar, N., & Boughrara, A. (2019). The impact of revenue diversification on bank profitability and risk: evidence from MENA banking industry. *Macroeconomics and Finance in Emerging Market Economies*, 12(1), 36. <https://doi.org/10.1080/17520843.2018.1535513>
39. Andreou, P. C., Philip, D., & Robejsek, P. (2016). Bank Liquidity Creation and Risk-Taking: Does Managerial Ability Matter?. *Journal of Business Finance & Accounting*, 43(1-2), 226-259. <https://doi.org/10.1111/jbfa.12169>
40. Anichukwueze, C. C., Osuji, V. C., & Oguntegbe, E. E. (2019). Global marketing law and consumer protection challenges: a strategic framework for multinational compliance. *IRE Journals*, 3(6), 325-333.
41. Anichukwueze, C. C., Osuji, V. C., & Oguntegbe, E. E. (2020). Designing ethics and compliance training frameworks to drive measurable cultural and behavioral change. *Int J Multidiscip Res Growth Eval*, 1(3), 205-20.
42. Arnsdorf, M. (2012). Quantification of central counterparty risk. *Journal of Risk Management in Financial Institutions*, 5(3), 273. <https://doi.org/10.69554/buwe2936>
43. Arumosoye, O. M., & Obriki, O. D. (2018). Development of an integrated heat stress risk conceptual model for industrial operations in extreme environments. *Iconic Research and Engineering Journals*, 1(12), 141-160. <https://doi.org/10.64388/IREV1I12-1714415>
44. Arumosoye, O. M., & Obriki, O. D. (2020). A governance-oriented conceptual model for contractor safety performance in multi-contract industrial projects. *International Journal of Multidisciplinary Research and Growth Evaluation*, 1(5), 728-740. <https://doi.org/10.54660/IJMRGE.2020.1.5.728-740>
45. Ashraf, B. N. (2020). Policy Uncertainty and Bank Liquidity Hoarding: International Evidence. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3574193>
46. Asongu, S. A. (2013). Post-crisis bank liquidity risk management disclosure. *Qualitative Research in Financial Markets*, 5(1), 65. <https://doi.org/10.1108/17554171311308968>
47. Atta, S., Tofah, P., Kankam, M. A., & Adenuga, O. M. (2020). A critical review of NDT-based integrity management and corrosion risk assessment strategies for refinery process equipment. *International Journal of Engineering and Modern Technology*, 6(2), 19-46. <https://doi.org/10.56201/ijemt.vol.6.no2.2020.pg19.46>

48. Baatwah, S. R. (2016). Audit tenure and financial reporting in Oman: Does rotation affect the quality?. *Risk Governance and Control: Financial Markets and Institutions*, 6(3), 16-27. <https://doi.org/10.22495/rcgv6i3c1art2>
49. Bace, E. (2016). Bank profitability: Liquidity, capital and asset quality. *Journal of Risk Management in Financial Institutions*, 9(4), 327. <https://doi.org/10.69554/crpu2203>
50. Bakoush, M. (2016). An Integrated Macroprudential Stress Test of Bank Liquidity and Solvency. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3075521>
51. Barry, T., Diabat, A., & Tarazi, A. (2020). Unexpected Deposit Flows, Off-Balance Sheet Funding Liquidity Risk and Bank Loan Production. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3560114>
52. Bawa, J. K., & Basu, S. (2020). Restructuring assets reform, 2013: Impact of operational ability, liquidity, bank capital, profitability and capital on bank credit risk. *IIMB Management Review*, 32(3), 267. <https://doi.org/10.1016/j.iimb.2019.10.009>
53. Bello, N., Hasan, A., & Saiti, B. (2017). The mitigation of liquidity risk in Islamic banking operations. *Banks and Bank Systems*, 12(3), 154. [https://doi.org/10.21511/bbs.12\(3-1\).2017.01](https://doi.org/10.21511/bbs.12(3-1).2017.01)
54. Benink, H. (2020). Global Bank Capital and Liquidity after 30 Years of Basel Accords. *Journal of Risk and Financial Management*, 13(4), 73. <https://doi.org/10.3390/jrfm13040073>
55. Berger, A. N., Bouwman, C. H. S., Kick, T. K., & Schaeck, K. (2010). Bank Liquidity Creation and Risk Taking During Distress. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2794043>
56. Bessler, W., & Kurmann, P. (2014). Bank risk factors and changing risk exposures: Capital market evidence before and during the financial crisis. *Journal of Financial Stability*, 13, 151-166. <https://doi.org/10.1016/j.jfs.2014.06.003>
57. Bhati, S., De Zoysa, A., & Jitaree, W. (2019). Factors affecting the liquidity of commercial banks in India: a longitudinal analysis. *Banks and Bank Systems*, 14(4), 78-88. [https://doi.org/10.21511/bbs.14\(4\).2019.08](https://doi.org/10.21511/bbs.14(4).2019.08)
58. Bhattacharyya, I., & Sahoo, S. (2011). Comparative Statics of Central Bank Liquidity Management: Some Insights. *Economics Research International*, 2011(1). <https://doi.org/10.1155/2011/930672>
59. Bidder, R., & McKenna, A. (2015). Robust stress testing. Federal Reserve Bank of San Francisco, Working Paper Series, 01-54. <https://doi.org/10.24148/wp2015-13>
60. Bindseil, U. (2013). Central Bank Collateral, Asset Fire Sales, Regulation and Liquidity. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2350657>
61. Bindseil, U., & Jablecki, J. (2011). The Optimal Width of the Central Bank Standing Facilities Corridor and Banks' Day - to - Day Liquidity Management. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1852266>
62. Bindseil, U., Weller, B., & Wuertz, F. (2003). Central Bank and Commercial Banks' Liquidity Management – What is the Relationship?. *Economic Notes*, 32(1), 37-66. <https://doi.org/10.1046/j.0391-5026.2003.00102.x>
63. BISCHOF, J., & DASKE, H. (2013). Mandatory Disclosure, Voluntary Disclosure, and Stock Market Liquidity: Evidence from the EU Bank Stress Tests. *Journal of Accounting Research*, 51(5), 997-1029. <https://doi.org/10.1111/1475-679x.12029>
64. Blommestein, H. (2017). Impact of regulatory changes on government bond market liquidity. *Journal of Financial Regulation and Compliance*, 25(3), 307-317. <https://doi.org/10.1108/jfrc-01-2017-0001>
65. Bola-Sadipe, D., Aliliele, C., & Eboh, E. E. (2019). Conceptual model for strategic accounting systems strengthening financial transparency and regulatory compliance. *IRE Journals*, 3(6), 535-564. <https://doi.org/10.64388/IREV3I6-1715327>

66. Burić, M. N., Kaščelan, V., Radović, M., & Filipović, A. L. (2018). Mechanisms of Protection from Interest Rate Risk with Reference to the Life Insurance Market in Montenegro. *Journal of Central Banking Theory and Practice*, 7(1), 17-42. <https://doi.org/10.2478/jcbtp-2018-0002>
67. Busch, R., Drescher, C., & Memmel, C. (2017). Bank Stress Testing Under Different Balance Sheet Assumptions. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2956676>
68. Cai, J., & Thakor, A. V. (2008). Liquidity Risk, Credit Risk, and Interbank Competition. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1103548>
69. Cai, R., & Zhang, M. (2017). How Does Credit Risk Influence Liquidity Risk? Evidence from Ukrainian Banks. *Visnyk of the National Bank of Ukraine*(241), 21. <https://doi.org/10.26531/vnbu2017.241.021>
70. Calomiris, C. W., Jaremski, M., Park, H., & Richardson, G. (2015). Liquidity Risk, Bank Networks, and the Value of Joining the Fed. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2562408>
71. Canabarro, E. (2013). Stress test design. *Journal of Risk Management in Financial Institutions*, 7(1), 52. <https://doi.org/10.69554/rszt4242>
72. Carpinelli, L., & Crosignani, M. (2017). The Effect of Central Bank Liquidity Injections on Bank Credit Supply. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2930063>
73. Cecchetti, S. G., & Disyatat, P. (2009). Central Bank Tools and Liquidity Shortages. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1496928>
74. Chang, C., & Chen, S. (2014). Bank Interest Margin and Default Risk under Basel III Capped Capital Adequacy Accord and Regulatory Deposit Insurance Fund Protection. *International Journal of Financial Research*, 6(1). <https://doi.org/10.5430/ijfr.v6n1p14>
75. Chan, M. K., & Kwok, S. (2017). Risk-sharing, market imperfections, asset prices: Evidence from China's stock market liberalization. *Journal of Banking & Finance*, 84, 166-187. <https://doi.org/10.1016/j.jbankfin.2017.06.003>
76. Chatterjee, U. K. (2015). Bank liquidity creation and asset market liquidity. *Journal of Financial Stability*, 18, 139-153. <https://doi.org/10.1016/j.jfs.2015.03.006>
77. CHEN, A. H., & MAZUMDAR, S. C. (1999). LOAN SALES AND BANK LIQUIDITY MANAGEMENT. *International Journal of Theoretical and Applied Finance*, 02(02), 113-129. <https://doi.org/10.1142/s0219024999000091>
78. Chen, I., Lee, Y., & Liu, Y. (2019). Bank liquidity, macroeconomic risk, and bank risk: Evidence from the Financial Services Modernization Act. *European Financial Management*, 26(1), 143. <https://doi.org/10.1111/eufm.12208>
79. Chen, S., & Lin, K. (2015). Credit Risk Hedging, Deposit Insurance Fund Protection, and Default Risk in Retail Banking during a Financial Crisis. *Research in World Economy*, 6(1). <https://doi.org/10.5430/rwe.v6n1p118>
80. Chen, Y., Shen, C., Kao, L., & Yeh, C. (2018). Bank Liquidity Risk and Performance. *Review of Pacific Basin Financial Markets and Policies*, 21(01), 1850007. <https://doi.org/10.1142/s0219091518500078>
81. Cherpack, P. L., & Jones, B. W. (2013). Community bank proactive risk management: Concentration management, stress testing and capital planning. *Journal of Risk Management in Financial Institutions*, 6(4), 411. <https://doi.org/10.69554/mtrf6594>
82. Claassen, S., & Van Rooyen, J. (2012). Bank liquidity risk management: A South African survey to determine future change. *Risk Governance and Control: Financial Markets and Institutions*, 2(3), 33-53. <https://doi.org/10.22495/rgcv2i3art3>
83. Cont, R., Kotlicki, A., & Valderrama, L. (2020). Liquidity at risk: Joint stress testing of solvency and liquidity. *Journal of Banking & Finance*, 118, 105871. <https://doi.org/10.1016/j.jbankfin.2020.105871>

84. Corona, C., Nan, L., & Zhang, G. (2017). The Coordination Role of Stress Test Disclosure in Bank Risk Taking. SSRN Electronic Journal. <https://doi.org/10.2139/ssrn.3201973>
85. Dada, O., Ekpido, L. N., & Oladipupo, A. O. (2020). A Review of Liquidity Risk Management and Stress Testing Practices in Global Financial Institutions. *International Journal of Multidisciplinary Research and Growth Evaluation*, 1(5), 756. <https://doi.org/10.54660/ijmrge.2020.1.5.756-767>
86. Dahir, A. M., Mahat, F. B., & Ali, N. A. B. (2018). Funding liquidity risk and bank risk-taking in BRICS countries. *International Journal of Emerging Markets*, 13(1), 231-248. <https://doi.org/10.1108/ijoem-03-2017-0086>
87. Darmouni, O., & Siani, K. (2020). Crowding Out Bank Loans: Liquidity-Driven Bond Issuance. SSRN Electronic Journal. <https://doi.org/10.2139/ssrn.3693282>
88. De Alcântara, W. R. (2015). Liquidity effects in banks' capital allocation decisions. *Journal of Risk Management in Financial Institutions*, 8(2), 163. <https://doi.org/10.69554/hfmo8535>
89. De Menna, B. (2020). The Joint Impact of Bank Capital and Funding Liquidity on the Monetary Policy's Risk-Taking Channel: A Bird's Eye View from the Euro Area Early Days. SSRN Electronic Journal. <https://doi.org/10.2139/ssrn.3650902>
90. Demiroglu, C., & James, C. (2011). The use of bank lines of credit in corporate liquidity management: A review of empirical evidence. *Journal of Banking & Finance*, 35(4), 775-782. <https://doi.org/10.1016/j.jbankfin.2010.10.020>
91. DeYoung, R., Distinguin, I., & Tarazi, A. (2018). The joint regulation of bank liquidity and bank capital. *Journal of Financial Intermediation*, 34, 32-46. <https://doi.org/10.1016/j.jfi.2018.01.006>
92. DeYoung, R., & Huang, M. (2016). The External Effects of Bank Executive Pay: Liquidity Creation and Systemic Risk. SSRN Electronic Journal. <https://doi.org/10.2139/ssrn.2753759>
93. Dhahir Al-Noweran, (2019). Financial Analysis of Cash Flow Indicators, Capital Adequacy and Banking Liquidity Risk for Jordan Housing Bank for Trade and Finance 2011-2015. *TANMIYAT AL-RAFIDAIN*, 38(121), 99-112. <https://doi.org/10.33899/tanra.2019.161165>
94. Dionne, G., Pacurar, M., & Zhou, X. (2015). Liquidity-adjusted Intraday Value at Risk modeling and risk management: An application to data from Deutsche Börse. *Journal of Banking & Finance*, 59, 202-219. <https://doi.org/10.1016/j.jbankfin.2015.06.005>
95. Diuba, Y., & Murina, H. (2015). The NBU Approach to Stress Testing the Ukrainian Banking System. *Visnyk of the National Bank of Ukraine*(234), 39. <https://doi.org/10.26531/vnbn2015.234.039>
96. Djebali, N., & Zaghdoudi, K. (2020). Threshold effects of liquidity risk and credit risk on bank stability in the MENA region. *Journal of Policy Modeling*, 42(5), 1049. <https://doi.org/10.1016/j.jpolmod.2020.01.013>
97. Dogbatsey, E. A., & Ebhojie, O. (2018). Budget compliance and statutory reporting in Sub-Saharan Africa: A systematic review of frameworks, gaps, and reform pathways. Zenodo. <https://doi.org/10.5281/zenodo.20446859> [Originally numbered 2(6); journal name not captured in source.]
98. Dogbatsey, E. A., Ebhojie, O., & Oyeleye, A. O. (2019). Reconciliation control and financial workflow redesign in emerging market organizations: A conceptual framework. Zenodo. <https://doi.org/10.5281/zenodo.20447103> [Originally numbered 3(5); journal name not captured in source.]
99. Dosunmu, A. A., & Ogundele, P. O. (2019). Security audit and enterprise risk assessment frameworks for resilient information systems. *Iconic Research and Engineering Journals*, 3(5), 434-447. <https://doi.org/10.64388/IREV3I5-1713225>

100. Dosunmu, A. A., & Ogundele, P. O. (2019). Security audit and enterprise risk assessment frameworks for resilient information systems. *IRE Journals*, 3(5).
101. Drehmann, M., Sorensen, S., & Stringa, M. (2010). The integrated impact of credit and interest rate risk on banks: A dynamic framework and stress testing application. *Journal of Banking & Finance*, 34(4), 713. <https://doi.org/10.1016/j.jbankfin.2009.06.009>
102. D'Souza, C., & Lai, A. (2006). THE EFFECTS OF BANK CONSOLIDATION ON RISK CAPITAL ALLOCATION AND MARKET LIQUIDITY. *Journal of Financial Research*, 29(2), 271-291. <https://doi.org/10.1111/j.1475-6803.2006.00178.x>
103. D'Souza, C., & Lai, A. (2006). THE EFFECTS OF BANK CONSOLIDATION ON RISK CAPITAL ALLOCATION AND MARKET LIQUIDITY. *Journal of Financial Research*, 29(2), 271. <https://doi.org/10.1111/j.1475-6803.2006.00178.x>
104. Duane, M., Schuermann, T., & Reynolds, P. (2013). Stress testing bank profitability. *Journal of Risk Management in Financial Institutions*, 7(1), 72. <https://doi.org/10.69554/eynf2940>
105. Duan, J., Moreau, A. F., & Sealey, C. (1995). Deposit insurance and bank interest rate risk: Pricing and regulatory implications. *Journal of Banking & Finance*, 19(6), 1091. [https://doi.org/10.1016/0378-4266\(95\)00073-p](https://doi.org/10.1016/0378-4266(95)00073-p)
106. Du, B. (2017). How Useful Is Basel III's Liquidity Coverage Ratio? Evidence From US Bank Holding Companies. *European Financial Management*, 23(5), 902. <https://doi.org/10.1111/eufm.12116>
107. Eichberger, J., & Summer, M. (2005). Bank Capital, Liquidity, and Systemic Risk. *Journal of the European Economic Association*, 3(2-3), 547-555. <https://doi.org/10.1162/jeea.2005.3.2-3.547>
108. Eichberger, J., & Summer, M. (2005). Bank Capital, Liquidity, and Systemic Risk. *Journal of the European Economic Association*, 3(2-3), 547. <https://doi.org/10.1162/jeea.2005.3.2-3.547>
109. El-Massah, S., Bacheer, S. M., & Sayed, O. A. (2019). Liquidity Risk in the Mena Region Banking Sector: Does Bank Type Make a Difference?. *The Journal of Developing Areas*, 53(1), 147-163. <https://doi.org/10.1353/jda.2019.0009>
110. End, J. W. v. d. (2009). Liquidity Stress-Tester: A Model for Stress-testing Banks' Liquidity Risk. *CESifo Economic Studies*, 56(1), 38. <https://doi.org/10.1093/cesifo/ifp005>
111. Eyetsemitan, R. A., Ambali, K. B., Oyeleye, A. O., & Fadayomi, O. (2020). Multi-stakeholder governance alignment in joint venture operations: A conceptual framework for coordinating business processes in highly regulated environments. *Iconic Research and Engineering Journals*, 4(4), 418-441. <https://doi.org/10.64388/IREV4I4-1716955>
112. Fadayomi, O., Abolaji, T. O., Edivri, J., Ogbole, J. I., Okoruwa, P. O., & Akeju, B. (2019). Risk-based cybersecurity assurance and data availability limitations, advances and future research opportunities. *Iconic Research and Engineering Journals*, 2(12), 602–617. <https://doi.org/10.64388/IREV2I12-1713779>
113. Fadayomi, O., Abolaji, T. O., Edivri, J., Ogbole, J. I., Okoruwa, P. O., & Akeju, B. (2019). Risk-based cybersecurity assurance and data availability: Limitations, advances and future research opportunities. *IRE Journals*, 2(12). <https://doi.org/10.64388/IREV2I12-1713779>
114. Fakhfakh, I., & Jarboui, A. (2020). Audit certification, earnings management and risk governance: a moderated-mediation analysis. *Journal of Financial Reporting and Accounting*, 18(2), 277-299. <https://doi.org/10.1108/jfra-01-2019-0015>
115. Farai Don, D. (2019). The Impact of Liquidity Management on Bank Financial Performance in a Subdued Economic Environment: A Case of the Zimbabwean Banking

- Industry. *Journal of Banking and Finance Management*, 2(4), 16-27. <https://doi.org/10.22259/2642-9144.0204003>
116. FF, A., & OT, D. (2019). Risk Assets Management, Liquidity Management and Sustainable Performance in Nigeria Deposit Money Banks. *International Journal of Accounting Research*, 06(02). <https://doi.org/10.35248/2472-114x.18.6.178>
 117. Fielitz, B. D., & Loeffler, T. A. (1979). A Linear Programming Model for Commercial Bank Liquidity Management. *Financial Management*, 8(3), 41. <https://doi.org/10.2307/3665037>
 118. Franck, R., & Krausz, M. (2007). Liquidity risk and bank portfolio allocation. *International Review of Economics & Finance*, 16(1), 60-77. <https://doi.org/10.1016/j.iref.2004.09.007>
 119. Freixas, X., Parigi, B. M., & Rochet, J. (2000). Systemic Risk, Interbank Relations, and Liquidity Provision by the Central Bank. *Journal of Money, Credit and Banking*, 32(3), 611. <https://doi.org/10.2307/2601198>
 120. Fujiwara, I., Sudo, N., Nakajima, T., & Teranishi, Y. (2010a). Global Liquidity Trap. Federal Reserve Bank of Dallas, Globalization and Monetary Policy Institute Working Papers, 2010(56). <https://doi.org/10.24149/gwp56>
 121. Fujiwara, I., & Ueda, K. (2010b). The Fiscal Multiplier and Spillover in a Global Liquidity Trap. Federal Reserve Bank of Dallas, Globalization and Monetary Policy Institute Working Papers, 2010(51). <https://doi.org/10.24149/gwp51>
 122. Fu, J., Wang, X., & Wang, Y. (2012). Credit spreads, endogenous bankruptcy and liquidity risk. *Computational Management Science*, 9(4), 515-530. <https://doi.org/10.1007/s10287-012-0153-3>
 123. Gabbi, G. (2004). Measuring liquidity risk in a banking management framework. *Managerial Finance*, 30(5), 44-58. <https://doi.org/10.1108/03074350410769065>
 124. Gallardo, G. G., Schuermann, T., & Duane, M. (2016). Stress testing convergence. *Journal of Risk Management in Financial Institutions*, 9(1), 32. <https://doi.org/10.69554/qmdk4141>
 125. Galletta, S., & Mazzù, S. (2019). Liquidity Risk Drivers and Bank Business Models. *Risks*, 7(3), 89. <https://doi.org/10.3390/risks7030089>
 126. Gambetta, N., García-Benau, M. A., & Zorio-Grima, A. (2019). Stress test impact and bank risk profile: Evidence from macro stress testing in Europe. *International Review of Economics & Finance*, 61, 347. <https://doi.org/10.1016/j.iref.2018.04.001>
 127. Gatev, E., Schuermann, T., & Strahan, P. E. (2007). Managing Bank Liquidity Risk: How Deposit-Loan Synergies Vary with Market Conditions. *Review of Financial Studies*, 22(3), 995-1020. <https://doi.org/10.1093/rfs/hhm060>
 128. Ghenimi, A., Chaibi, H., & Omri, M. A. B. (2017). The effects of liquidity risk and credit risk on bank stability: Evidence from the MENA region. *Borsa Istanbul Review*, 17(4), 238. <https://doi.org/10.1016/j.bir.2017.05.002>
 129. Ghenimi, A., Chaibi, H., & Omri, M. A. B. (2020). Liquidity risk determinants: Islamic vs conventional banks. *International Journal of Law and Management*, 63(1), 65-95. <https://doi.org/10.1108/ijlma-03-2018-0060>
 130. Giordana, G. A., & Schumacher, I. (2013). Bank liquidity risk and monetary policy. Empirical evidence on the impact of Basel III liquidity standards. *International Review of Applied Economics*, 27(5), 633. <https://doi.org/10.1080/02692171.2013.778821>
 131. Giulioni, G. (2015). Policy interest rate, loan portfolio management and bank liquidity. *The North American Journal of Economics and Finance*, 31, 52-74. <https://doi.org/10.1016/j.najef.2014.10.008>

132. Godlewski, C. J. (2005). Bank capital and credit risk taking in emerging market economies. *Journal of Banking Regulation*, 6(2), 128-145. <https://doi.org/10.1057/palgrave.jbr.2340187>
133. Golubeva, O., Duljic, M., & Keminen, R. (2019). The impact of liquidity risk on bank profitability: some empirical evidence from the European banks following the introduction of Basel III regulations. *Journal of Accounting and Management Information Systems*, 18(4). <https://doi.org/10.24818/jamis.2019.04001>
134. Goyal, R., & McKinnon, R. (2003). Japan's Negative Risk Premium in Interest Rates: The Liquidity Trap and the Fall in Bank Lending. *The World Economy*, 26(3), 339-363. <https://doi.org/10.1111/1467-9701.00526>
135. Hakimi, A., & Zaghdoudi, K. (2017). Liquidity Risk and Bank Performance: An Empirical Test for Tunisian Banks. *Business and Economic Research*, 7(1), 46. <https://doi.org/10.5296/ber.v7i1.10524>
136. Hale, G., Krainer, J., & McCarthy, E. (2015). Aggregation level in stress testing models. Federal Reserve Bank of San Francisco, Working Paper Series, 01-39. <https://doi.org/10.24148/wp2015-14>
137. Handorf, W. C. (2012). The cost of bank liquidity. *Journal of Banking Regulation*, 15(1), 1-13. <https://doi.org/10.1057/jbr.2012.14>
138. Hardy, D., & Schmieder, C. (2013). Rules of Thumb for Bank Solvency Stress Testing. *IMF Working Papers*, 2013(232), 1. <https://doi.org/10.5089/9781475518115.001>
139. Hellwig, M. (1994). Liquidity provision, banking, and the allocation of interest rate risk. *European Economic Review*, 38(7), 1363. [https://doi.org/10.1016/0014-2921\(94\)90015-9](https://doi.org/10.1016/0014-2921(94)90015-9)
140. Hess, A. C., & Kamara, A. (2005). Conditional Time-Varying Interest Rate Risk Premium: Evidence from the Treasury Bill Futures Market. *Journal of Money, Credit, and Banking*, 37(4), 679-698. <https://doi.org/10.1353/mcb.2005.0042>
141. Holmstrom, B., & Tirole, J. (2000). Liquidity and Risk Management. *Journal of Money, Credit and Banking*, 32(3), 295. <https://doi.org/10.2307/2601167>
142. Hsieh, M., & Lee, C. (2020). Bank Liquidity Creation, Regulations, and Credit Risk. *Asia-Pacific Journal of Financial Studies*, 49(3), 368-409. <https://doi.org/10.1111/ajfs.12295>
143. Ippolito, F., Peydró, J., Polo, A., & Sette, E. (2016). Double bank runs and liquidity risk management. *Journal of Financial Economics*, 122(1), 135. <https://doi.org/10.1016/j.jfineco.2015.11.004>
144. Irani, R. M., & Meisenzahl, R. R. (2015). Loan Sales and Bank Liquidity Risk Management: Evidence from a U.S. Credit Register. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2670886>
145. Irani, R. M., & Meisenzahl, R. R. (2017). Loan Sales and Bank Liquidity Management: Evidence from a U.S. Credit Register. *The Review of Financial Studies*, 30(10), 3455-3501. <https://doi.org/10.1093/rfs/hhx024>
146. Jacobs, M. (2018). The validation of machine-learning models for the stress testing of credit risk. *Journal of Risk Management in Financial Institutions*, 11(3), 218. <https://doi.org/10.69554/shkp5605>
147. Jasienė, M., Martinavičius, J., Jasevičienė, F., & Krivkienė, G. (2012). BANK LIQUIDITY RISK: ANALYSIS AND ESTIMATES. *Business, Management and Education*, 10(2), 186-204. <https://doi.org/10.3846/bme.2012.14>
148. Jasova, M., Mendicino, C., & Supera, D. (2018). Rollover Risk and Bank Lending Behavior: Evidence From Unconventional Central Bank Liquidity. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3216733>

149. Jean-Loup, S. (2017). Measuring heterogeneity in bank liquidity risk: Who are the winners and losers?. *The Quarterly Review of Economics and Finance*, 66, 302-313. <https://doi.org/10.1016/j.qref.2017.04.006>
150. Jobst, A., Ong, L., & Schmieder, C. (2017). Macroprudential Liquidity Stress Testing in FSAPs for Systemically Important Financial Systems. *IMF Working Papers*, 2017(102), 1. <https://doi.org/10.5089/9781475597240.001>
151. Jones, B. C., & Ominyi, M. (2020). A review of legal barriers to import-export participation for Nigerian entrepreneurs. *IIARD International Journal of Economics and Business Management*, 6(4), 51–70. <https://doi.org/10.56201/ijebm.vol.6.no4.2020.pg51.70>
152. Jumreornvong, S., Chakreyavanich, C., Treepongkaruna, S., & Jiraporn, P. (2018). Capital Adequacy, Deposit Insurance, and the Effect of Their Interaction on Bank Risk. *Journal of Risk and Financial Management*, 11(4), 79. <https://doi.org/10.3390/jrfm11040079>
153. Kabir Hassan, M., Unsal, O., & Emre Tamer, H. (2016). Risk management and capital adequacy in Turkish participation and conventional banks: A comparative stress testing analysis. *Borsa Istanbul Review*, 16(2), 72-81. <https://doi.org/10.1016/j.bir.2016.04.001>
154. Karels, G. V., Prakash, A. J., & Roussakis, E. (1989). The Relationship Between Bank Capital Adequacy and Market Measures of Risk. *Journal of Business Finance & Accounting*, 16(5), 663-680. <https://doi.org/10.1111/j.1468-5957.1989.tb00045.x>
155. Keown, A. J. (1978). A CHANCE-CONSTRAINED GOAL PROGRAMMING MODEL FOR BANK LIQUIDITY MANAGEMENT. *Decision Sciences*, 9(1), 93. <https://doi.org/10.1111/j.1540-5915.1978.tb01369.x>
156. Kerry, W. (2008). Measuring financial market liquidity. *Journal of Risk Management in Financial Institutions*, 1(2), 181. <https://doi.org/10.69554/qdjb4587>
157. Khan, M. S., Scheule, H., & Wu, E. (2017). Funding liquidity and bank risk taking. *Journal of Banking & Finance*, 82, 203. <https://doi.org/10.1016/j.jbankfin.2016.09.005>
158. Kim, J. (2017). BANK COMPETITION AND FINANCIAL STABILITY: LIQUIDITY RISK PERSPECTIVE. *Contemporary Economic Policy*, 36(2), 337. <https://doi.org/10.1111/coep.12243>
159. Kola, F., Gjipali, A., & Sula, E. (2019). Commercial Bank Performance and Credit Risk in Albania. *Journal of Central Banking Theory and Practice*, 8(3), 161-177. <https://doi.org/10.2478/jcbtp-2019-0029>
160. Krykliy, O., & Luchko, I. (2018). Model of Stress-testing of Banks' Liquidity Risk in Ukraine. *Financial Markets, Institutions and Risks*, 123-132. [https://doi.org/10.21272/fmir.2\(2\).123-132.2018](https://doi.org/10.21272/fmir.2(2).123-132.2018)
161. Kucukkocaoglu, G., & Altintas, A. (2016). Using non-performing loan ratios as default rates in the estimation of credit losses and macroeconomic credit risk stress testing: A case from Turkey. *Risk Governance and Control: Financial Markets and Institutions*, 6(1), 52. <https://doi.org/10.22495/rgcv6i1art6>
162. Kupiec, P. H. (2020). Policy uncertainty and bank stress testing. *Journal of Financial Stability*, 51, 100761. <https://doi.org/10.1016/j.jfs.2020.100761>
163. Lamidi, O. B. A., & Olamide, A. (2018). Spatially explicit risk modeling framework for tracking subsurface contaminant migration in data-limited remediation sites. *Iconic Research and Engineering Journals*, 2(6), 178–198. <https://www.irejournals.com/paper-details/1713080>
164. Lawal, O. A., & Oduleye, T. E. (2018). A review and conceptual framework for tax governance and cross-border compliance analytics. *IRE Journals*, 2(5).
165. Lawal, O. A., & Oduleye, T. E. (2018b). A review and conceptual framework for tax governance and cross-border compliance analytics. *Iconic Research and Engineering Journals*, 2(5).

166. Lawal, O. A., & Oduleye, T. E. (2019a). A conceptual risk assessment model for transfer pricing in multinational corporations. *Iconic Research and Engineering Journals*, 2(12).
167. Lawal, O. A., & Oduleye, T. E. (2019). A conceptual risk assessment model for transfer pricing in multinational corporations. *IRE Journals*, 2(12).
168. León, C., Machado, C., & Sarmiento, M. (2018). Identifying central bank liquidity super-spreaders in interbank funds networks. *Journal of Financial Stability*, 35, 75-92. <https://doi.org/10.1016/j.jfs.2016.10.008>
169. Liang, G., Lütkebohmert, E., & Xiao, Y. (2011). A Multi-Period Bank-Run Model for Liquidity Risk. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.1773362>
170. Liang, G., Lütkebohmert, E., & Xiao, Y. (2013). A Multiperiod Bank Run Model for Liquidity Risk. *Review of Finance*, 18(2), 803. <https://doi.org/10.1093/rof/rft016>
171. Loutskina, E. (2011). The role of securitization in bank liquidity and funding management. *Journal of Financial Economics*, 100(3), 663-684. <https://doi.org/10.1016/j.jfineco.2011.02.005>
172. Lucchetta, M. (2007). What Do Data Say About Monetary Policy, Bank Liquidity and Bank Risk Taking?. *Economic Notes*, 36(2), 189. <https://doi.org/10.1111/j.1468-0300.2007.00180.x>
173. Ly, K. (2015). Liquidity Risk, Regulation and Bank Performance: Evidence from European Banks. *Global Economy and Finance Journal*, 8(1), 11. <https://doi.org/10.21102/gefj.2015.03.81.02>
174. Ly, K. C., & Shimizu, K. (2018). Funding liquidity risk and internal markets in multi-bank holding companies: Diversification or internalization?. *International Review of Financial Analysis*, 57, 77-89. <https://doi.org/10.1016/j.irfa.2017.12.011>
175. Mamatzakis, E., & Bermpei, T. (2014). What drives investment bank performance? The role of risk, liquidity and fees prior to and during the crisis. *International Review of Financial Analysis*, 35, 102-117. <https://doi.org/10.1016/j.irfa.2014.07.012>
176. Marple, T. (2020). The social management of complex uncertainty: Central Bank similarity and crisis liquidity swaps at the Federal Reserve. *The Review of International Organizations*, 16(2), 377-401. <https://doi.org/10.1007/s11558-020-09378-x>
177. Marshall, D., & Venkataraman, S. (1999). Bank Capital Standards for Market Risk: A Welfare Analysis. *Review of Finance*, 2(2), 125-157. <https://doi.org/10.1023/a:1009705608627>
178. Mashamba, T. (2014). Determinates of Commercial Banks Liquidity: Internal Factor Analysis. *Journal of Corporate Governance, Insurance, and Risk Management*, 1(2), 112-131. <https://doi.org/10.56578/jcgirm010207>
179. Ma, Y., & Li, Z. (2020). Funding Liquidity and Bank Risk-Taking: Empirical Evidence from China. *China Finance and Economic Review*, 9(1), 64. <https://doi.org/10.1515/cfer-2020-090105>
180. Mayne, L. S. (1969). Federal Reserve System Membership, Bank Liquidity, and Bank Profitability. *Southern Economic Journal*, 36(2), 181. <https://doi.org/10.2307/1056435>
181. Mbonu, I. S., Aliliele, C., Iwuanyanwu, U., & Oluoha, O. M. (2018). A conceptual framework for legal and ethical risk modeling in enterprise data protection governance systems. *Iconic Research and Engineering Journals*, 2(2), 207-226. <https://doi.org/10.64388/IREV2I2-1714911>
182. Mbonu, I. S., Iwuanyanwu, U., Aliliele, C., & Uzoka, E. (2020a). A conceptual framework for agile supply chain digital transformation with embedded IT risk and ISO compliance controls. *Iconic Research and Engineering Journals*, 3(11), 566-593. <https://doi.org/10.64388/IREV3I11-1714916>
183. Mbonu, I. S., Iwuanyanwu, U., Aliliele, C., & Uzoka, E. (2020b). Advances in infrastructure as code governance for secure terraform based enterprise cloud

- deployments. *International Journal of Multidisciplinary Research and Growth Evaluation*, 1(5), 811-828. <https://doi.org/10.54660/IJMRGE.2020.1.5.811-828>
184. Mendoza, R., & Rivera, J. P. R. (2017). The Effect of Credit Risk and Capital Adequacy on the Profitability of Rural Banks in the Philippines. *Scientific Annals of Economics and Business*, 64(1), 83-96. <https://doi.org/10.1515/saeb-2017-0006>
 185. Michael, O. N., & Ogunsola, O. E. (2019a). Determinants of access to agribusiness finance and their influence on enterprise growth in rural communities. *Iconic Research and Engineering Journals*, 2(12), 533-548.
 186. Michael, O. N., & Ogunsola, O. E. (2019). Determinants of access to agribusiness finance and their influence on enterprise growth in rural communities. *Iconic Research and Engineering Journals*, 2(12), 533-548.
 187. Mohsni, S., & Otchere, I. (2014). Financial crisis, liquidity infusion and risk-taking: The case of Canadian banks. *Journal of Banking Regulation*, 16(2), 146-167. <https://doi.org/10.1057/jbr.2014.2>
 188. Montesi, G., & Papiro, G. (2018). Bank Stress Testing: A Stochastic Simulation Framework to Assess Banks' Financial Fragility †. *Risks*, 6(3), 82. <https://doi.org/10.3390/risks6030082>
 189. Montesi, G., Papiro, G., Fazzini, M., & Ronga, A. (2020). Stochastic Optimization System for Bank Reverse Stress Testing. *Journal of Risk and Financial Management*, 13(8), 174. <https://doi.org/10.3390/jrfm13080174>
 190. Morgan, D. P. (2000). Bank Commitment Relationships, Cash Flow Constraints, and Liquidity Management. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.246671>
 191. Morkoetter, S., Schaller, M., & Westerfeld, S. (2012). The Liquidity Dynamics of Bank Defaults. *European Financial Management*, 20(2), 291-320. <https://doi.org/10.1111/j.1468-036x.2011.00637.x>
 192. Mousavi, S., & Shefrin, H. (2010). Prediction tools: Financial market regulation, politics and psychology. *Journal of Risk Management in Financial Institutions*, 3(4), 318. <https://doi.org/10.69554/hqhz4594>
 193. Muharam, H. (2013). The Influence of Fundamental Factors to Liquidity Risk on Banking Industry: Comparative Study between Islamic Bank and Conventional Bank in Indonesia. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2339598>
 194. Murphy, D. (2012). The systemic risks of OTC derivatives central clearing. *Journal of Risk Management in Financial Institutions*, 5(3), 319. <https://doi.org/10.69554/fcaq5690>
 195. Nguyen, M., Perera, S., & Skully, M. (2017). Bank market power, asset liquidity and funding liquidity: International evidence. *International Review of Financial Analysis*, 54, 23-38. <https://doi.org/10.1016/j.irfa.2017.09.002>
 196. Nguyen, T. V. H., Ahmed, S., Chevapatrakul, T., & Onali, E. (2020). Do stress tests affect bank liquidity creation?. *Journal of Corporate Finance*, 64, 101622. <https://doi.org/10.1016/j.jcorpfin.2020.101622>
 197. Nikomaram, H., Taghavi, M., & Khalili Diman, S. (2013). The relationship between liquidity risk and credit risk in Islamic banking industry of Iran. *Management Science Letters*, 3(4), 1223-1232. <https://doi.org/10.5267/j.msl.2013.02.025>
 198. Obogo, S. F., Arumosoye, O. M., & Obriki, O. D. (2020a). Advances in internal QHSE audit systems for industrial engineering operations. *Iconic Research and Engineering Journals*, 4(4), 399-417. <https://doi.org/10.64388/IREV4I4-1715499>
 199. Obogo, S. F., Arumosoye, O. M., & Obriki, O. D. (2020b). Conceptual risk management model for heavy lifting and crane installation engineering operations. *Shodhshauryam, International Scientific Refereed Research Journal*, 3(4), 122-144. <https://doi.org/10.32628/SHISRRJ214441>

200. Obogo, S. F., Ozobu, C. O., & Uduokhai, D. O. (2019b). Development of a construction safety risk governance model for multi contractor high rise projects. *Iconic Research and Engineering Journals*, 2(9), 502-522. <https://doi.org/10.64388/IREV2I9-1715495>
201. Obogo, S. F., Uduokhai, D. O., & Ozobu, C. O. (2019). Systematic review of hazard identification and risk control practices in urban construction projects. *Iconic Research and Engineering Journals*, 2(12), 666-681. <https://doi.org/10.64388/IREV2I12-1715496>
202. Obriki, O. D., & Arumosoye, O. M. (2018). Conceptual modeling of data-driven occupational safety risk control in large-scale energy infrastructure projects. *Iconic Research and Engineering Journals*, 1(7), 169-189. <https://doi.org/10.64388/IREV1I7-1714414>
203. Obriki, O. D., & Arumosoye, O. M. (2020). Conceptual framework for human error causation in high-risk construction and industrial activities. *International Journal of Multidisciplinary Research and Growth Evaluation*, 1(5), 715-727. <https://doi.org/10.54660/IJMRGE.2020.1.5.715-727>
204. Okojie, J. S., & Abioye, R. F. (2020). Reconciling chemical safety with circular-economy targets: A decision framework for post-consumer recycled polymers in consumer-goods packaging balancing REACH compliance, lifecycle GHG footprint, and regulatory risk. *International Journal of Multidisciplinary Research and Growth Evaluation*, 1(5), 992–1006.
205. Okonkwo, C. S., Ogunwole, O., Okeke, O. T., & Mayo, W. (2019). Conceptual framework for cost reduction through contract negotiation and vendor governance. *Iconic Research and Engineering Journals*, 2(9), 468-482. <https://doi.org/10.64388/IREV2I9-1713121>
206. Okonkwo, C. S., Ogunwole, O., Okeke, O. T., & Mayo, W. (2019). Conceptual framework for cost reduction through contract negotiation and vendor governance. *IRE Journals*, 2(9), 468–482. <https://doi.org/10.64388/IREV2I9-1713121>
207. Ominyi, M. (2020). Developing a conceptual framework for post-merger compliance integration in multi-jurisdictional banking transaction. *IIARD International Journal of Banking and Finance Research*, 6(3), 78–95. <https://doi.org/10.56201/ijbfr.vol.6.no3.2020.pg78.95>
208. Ominyi, M., & Anichukwueze, C. C. (2020). A review of regulatory clearance frameworks for cross-border mergers and acquisitions in African financial markets. *Journal of Accounting and Financial Management*, 6(4), 73–99. <https://doi.org/10.56201/jafm.vol.6.no4.2020.pg73.99>
209. Oshevire, P., Eyenubo, O. J., & Amayo, B. (2017). Voltage control in the presence of distributed generation. *ATBU Journal of Science, Technology and Education*, 5(2), 165-173.
210. Oshoba, T. O., Hammed, N. I., & Odejobi, O. D. (2020). Blockchain-enabled compliance and audit trail model for cloud configuration management. *Journal of Frontiers in Multidisciplinary Research*, 1(1), 193-201.
211. Otekunrin, A. O., Fagboro, G. D., Nwanji, T. I., Asamu, F. F., Ajiboye, B. O., & Falaye, A. J. (2019). Performance of deposit money banks and liquidity management in Nigeria. *Banks and Bank Systems*, 14(3), 152. [https://doi.org/10.21511/bbs.14\(3\).2019.13](https://doi.org/10.21511/bbs.14(3).2019.13)
212. Ovi, N. Z., Perera, S., & Colombage, S. (2014). Market Power, Credit Risk, Revenue Diversification and Bank Stability in Selected ASEAN Countries. *South East Asia Research*, 22(3), 399. <https://doi.org/10.5367/sear.2014.0221>
213. Pagratis, S., Topaloglou, N., & Tsionas, M. (2017). System stress testing of bank liquidity risk. *Journal of International Money and Finance*, 73, 22. <https://doi.org/10.1016/j.jimonfin.2017.02.001>
214. Paisley, J. (2017). Stress testing: Where next?. *Journal of Risk Management in Financial Institutions*, 10(3), 224. <https://doi.org/10.69554/dsde5864>

215. 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. <https://doi.org/10.69554/aque3872>
216. Pelizzon, L., Subrahmanyam, M. G., Tomio, D., & Uno, J. (2016). Sovereign credit risk, liquidity, and European Central Bank intervention: Deus ex machina?. *Journal of Financial Economics*, 122(1), 86-115. <https://doi.org/10.1016/j.jfineco.2016.06.001>
217. Petrella, G., & Resti, A. (2017). What drives the liquidity of sovereign bonds when markets are under stress? An assessment of the new Basel 3 rules on bank liquid assets. *Journal of Financial Stability*, 33, 297-310. <https://doi.org/10.1016/j.jfs.2016.07.018>
218. Pühr, C., Santos, A., Schmieder, C., Neftci, S., Neudorfer, B., Schmitz, S., & Hesse, H. (2012). Next Generation System-Wide Liquidity Stress Testing. *IMF Working Papers*, 2012(003), 1. <https://doi.org/10.5089/9781475502466.001>
219. Pykhtin, M. (2012). General wrong-way risk and stress calibration of exposure. *Journal of Risk Management in Financial Institutions*, 5(3), 234. <https://doi.org/10.69554/cbfi5371>
220. Ratnovski, L. (2013). Liquidity and transparency in bank risk management. *Journal of Financial Intermediation*, 22(3), 422. <https://doi.org/10.1016/j.jfi.2013.01.002>
221. Roberts, D., Sarkar, A., & Shachar, O. (2018). Bank Liquidity Provision and Basel Liquidity Regulations. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.3199876>
222. Rutkauskas, A. V., & Stankeviciene, J. (2006). INTEGRATED ASSET AND LIABILITY PORTFOLIO AS INSTRUMENT OF LIQUIDITY MANAGEMENT IN THE COMMERCIAL BANK. *Journal of Business Economics and Management*, 7(2), 45-57. <https://doi.org/10.3846/16111699.2006.9636123>
223. 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. <https://doi.org/10.1504/ijepee.2013.055791>
224. Saleh, I., & Afifa, M. A. (2020). The effect of credit risk, liquidity risk and bank capital on bank profitability: Evidence from an emerging market. *Cogent Economics & Finance*, 8(1), 1814509. <https://doi.org/10.1080/23322039.2020.1814509>
225. Sanni, J. O., Ajiga, D., & Atima, M. E. (2020a). Analytical models addressing measurement challenges of marketing return on investment in regulated services. *International Journal of Multidisciplinary Research and Growth Evaluation*, 1(5), 636-648. <https://doi.org/10.54660/IJMRGE.2020.1.5.636-648>
226. Sanni, J. O., Ajiga, D., & Atima, M. E. (2020). Analytical models addressing measurement challenges of marketing return on investment. *International Journal of Multidisciplinary Research and Growth Evaluation*, 1(5), 636-648.
227. Sawada, M. (2010). Liquidity risk and bank portfolio management in a financial system without deposit insurance: Empirical evidence from prewar Japan. *International Review of Economics & Finance*, 19(3), 392. <https://doi.org/10.1016/j.iref.2009.10.010>
228. Sayari, S., & Omri, A. (2017). Earnings Management, Accruals and Stock Liquidity. *Journal of Finance and Bank Management*. <https://doi.org/10.15640/jfbm.v5n1a2>
229. Scannella, E. (2016). Theory and regulation of liquidity risk management in banking. *International Journal of Risk Assessment and Management*, 19(1/2), 4. <https://doi.org/10.1504/ijram.2016.074433>
230. Schmitt, E. (2018). Stress Testing of Liquidity Maturity Transformation Risk in Banks. *Management Studies*, 6(4). <https://doi.org/10.17265/2328-2185/2018.04.001>
231. Seyi-Lande, O. B., Arowogbadamu, A. A. G., & Oziri, S. T. (2020). Geomarketing analytics for driving strategic retail expansion and improving market penetration in

- telecommunications. *International Journal of Multidisciplinary Futuristic Development*, 1(2), 50-60.
232. Shirasu, Y. (2016). Liquidity Risk of Japanese Corporate Bonds and Bank Funding. *Global Economy and Finance Journal*, 9(1), 38. <https://doi.org/10.21102/gefj.2016.03.91.04>
 233. Smillie, A., Epperlein, E., & Pandya, T. (2013). Use of stress scenarios in market risk economic capital. *Journal of Risk Management in Financial Institutions*, 7(1), 85. <https://doi.org/10.69554/phjv4940>
 234. Sunday, E. A., Omoegun, G. O., Essien, M. A., & Oluokun, O. A. (2019). Thermodynamic efficiency and control strategies in residential air conditioning systems. *International Journal of Scientific Research in Civil Engineering*, 3(3), 52–76.
 235. Tai, C. (2000). Time-varying market, interest rate, and exchange rate risk premia in the US commercial bank stock returns. *Journal of Multinational Financial Management*, 10(3-4), 397-420. [https://doi.org/10.1016/s1042-444x\(00\)00031-1](https://doi.org/10.1016/s1042-444x(00)00031-1)
 236. Tang, D. Y., & Yan, H. (2010). Market conditions, default risk and credit spreads. *Journal of Banking & Finance*, 34(4), 743-753. <https://doi.org/10.1016/j.jbankfin.2009.05.018>
 237. Topaloglou, N. (2014). Minimizing bank liquidity risk: evidence from the Lehman crisis. *Eurasian Business Review*, 5(1), 23-44. <https://doi.org/10.1007/s40821-014-0012-y>
 238. Tran, T. T. T., Nguyen, Y. T., Nguyen, T. T., & Tran, L. (2019). The determinants of liquidity risk of commercial banks in Vietnam. *Banks and Bank Systems*, 14(1), 94. [https://doi.org/10.21511/bbs.14\(1\).2019.09](https://doi.org/10.21511/bbs.14(1).2019.09)
 239. Ugoani, J. N. N. (2015). Poor Bank Liquidity Risk Management and Bank Failures: Nigerian Perspective. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2562341>
 240. Ugolini, S. (2016). Liquidity Management and Central Bank Strength: Bank of England Operations Reloaded, 1889-1910. *SSRN Electronic Journal*. <https://doi.org/10.2139/ssrn.2842571>
 241. van den End, J. W., & Tabbae, M. (2012). When liquidity risk becomes a systemic issue: Empirical evidence of bank behaviour. *Journal of Financial Stability*, 8(2), 107-120. <https://doi.org/10.1016/j.jfs.2011.05.003>
 242. Varotto, S. (2011). Liquidity risk, credit risk, market risk and bank capital. *International Journal of Managerial Finance*, 7(2), 134-152. <https://doi.org/10.1108/17439131111122139>
 243. Varotto, S. (2011). Liquidity risk, credit risk, market risk and bank capital. *International Journal of Managerial Finance*, 7(2), 134. <https://doi.org/10.1108/17439131111122139>
 244. Wadesango, N., Mhaka, C., & Wadesango, O. V. (2017). Contribution of enterprise risk management and internal audit function towards quality of financial reporting in universities in a developing country. *Risk Governance and Control: Financial Markets and Institutions*, 7(2), 170-176. <https://doi.org/10.22495/rgcv7i2c1p5>
 245. Wadesango, N., Mhaka, C., & Wadesango, O. V. (2017). Contribution of enterprise risk management and internal audit function towards quality of financial reporting in universities in a developing country. *Risk Governance and Control: Financial Markets and Institutions*, 7(2), 170. <https://doi.org/10.22495/rgcv7i2c1p5>
 246. Wong, M. (2011a). Market BuVaR: A countercyclical risk metric. *Journal of Risk Management in Financial Institutions*, 4(4), 419. <https://doi.org/10.69554/sfuz4164>
 247. Wuryandani, G., Ginting, R., Iskandar, D., & Sitompul, Z. (2014). Fund Management And the Liquidity of The Bank. *Buletin Ekonomi Moneter dan Perbankan*, 16(3), 231-258. <https://doi.org/10.21098/bemp.v16i3.446>
 248. Zeldea, C. (2020). Modeling the Connection between Bank Systemic Risk and Balance-Sheet Liquidity Proxies through Random Forest Regressions. *Administrative Sciences*, 10(3), 52. <https://doi.org/10.3390/admsci10030052>

249. Zheng, C., (Wai Kong) Cheung, A., & Cronje, T. (2019). The moderating role of capital on the relationship between bank liquidity creation and failure risk. *Journal of Banking & Finance*, 108, 105651. <https://doi.org/10.1016/j.jbankfin.2019.105651>
250. Zolkifli, N. A., Samsudin, K. J., & Yusof, M. B. (2019). Determinants of Liquidity and Market Risk and the Effect on Bank Performance in Bahrain and Malaysia Banking. *International Journal of Trade, Economics and Finance*, 10(1), 8-16. <https://doi.org/10.18178/ijtef.2019.10.1.630>

IIARD