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Clawback Sukuk as Contingent Capital for Islamic Banks: An Empirical Analysis

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ABSTRACT

We extend the contingent capital framework of clawback bonds to Islamic banks under Shariah law. Using panel data on 20 major Islamic and conventional banks from 2015-2024 with 61 sukuk issuances, we find that clawback provisions reduce funding costs by 46 basis points for Islamic banks compared to only 13 basis points for conventional banks—an additional benefit of 33 basis points. This differential effectiveness stems from the natural alignment between clawback mechanisms and profit-sharing principles inherent in Islamic finance. We identify an optimal trigger level of 10-12% CET1 for Islamic banks, higher than the 7-9% optimal for conventional banks, reflecting Islamic banks' higher baseline capital ratios and lower leverage. Our findings suggest clawback sukuk should be prioritized as Shariah-compliant contingent capital instruments, offering superior loss-absorption characteristics while maintaining regulatory compliance with IFSB standards.

Kata Kunci:
Bank Syariah, Sukuk, Modal Kontinjensi, Ketentuan Clawback, Kepatuhan Syariah

ABSTRACT

Sukuk Clawback sebagai Modal Kontinjensi bagi Bank Syariah: Sebuah Analisis Empiris. *Penelitian ini memperluas kerangka modal kontinjen pada obligasi clawback untuk diterapkan pada bank syariah berdasarkan prinsip syariah. Dengan menggunakan data panel dari 20 bank syariah dan bank konvensional besar selama periode 2015–2024 serta 61 penerbitan sukuk, penelitian ini menemukan bahwa ketentuan clawback menurunkan biaya pendanaan sebesar 46 basis poin bagi bank syariah, dibandingkan dengan hanya 13 basis poin bagi bank konvensional—selisih manfaat sebesar 33 basis poin. Efektivitas diferensial ini bersumber dari keselarasan alamiah antara mekanisme clawback dan prinsip bagi hasil (profit-sharing) yang melekat dalam keuangan syariah. Penelitian ini mengidentifikasi tingkat pemicu (trigger level) optimal sebesar 10–12% CET1 bagi bank syariah, lebih tinggi dibandingkan tingkat optimal 7–9% bagi bank konvensional, yang mencerminkan rasio modal dasar bank syariah yang lebih tinggi serta tingkat leverage yang lebih rendah. Temuan ini menunjukkan bahwa sukuk clawback sebaiknya diprioritaskan sebagai instrumen modal kontinjensi yang sesuai prinsip syariah, karena menawarkan karakteristik penyerapan kerugian (loss-absorption) yang lebih baik sekaligus tetap memenuhi kepatuhan regulasi terhadap standar IFSB.*

INTRODUCTION

The 2008 global financial crisis exposed fundamental weaknesses in bank capital structures worldwide, particularly the inability of existing capital instruments to absorb losses during

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periods of systemic stress without triggering destructive feedback loops or requiring costly government interventions. This crisis catalyzed a fundamental rethinking of bank capital regulation, leading to the Basel III framework's emphasis on contingent capital—securities that automatically convert to equity or experience principal write-downs when banks breach predetermined financial triggers (Flannery, 2005; McDonald, 2013; Kashyap, Rajan, & Stein, 2008).

The theoretical appeal of contingent capital instruments lies in their ability to provide automatic recapitalization precisely when banks most need capital but market conditions make equity issuance prohibitively expensive or impossible. By contractually requiring capital infusion or loss absorption during distress, contingent capital instruments aim to reduce procyclicality, minimize moral hazard, and eliminate the need for ad hoc government bailouts that create significant fiscal burdens and market distortions.

While contingent convertible bonds (CoCos) have emerged as the dominant form of contingent capital in conventional banking, with over $500 billion issued globally since 2009, they face significant implementation challenges. Complex pricing dynamics create uncertainty for investors (Pennacchi, 2011; Sundaresan & Wang, 2015), potentially triggering death spirals as conversion approaches. High-profile failures, including Credit Suisse's complete AT1 write-down in 2023 during its acquisition by UBS, have raised serious concerns about investor protections and systemic stability implications.

Research Problem

However, the extension of contingent capital frameworks—whether CoCos or clawback structures—to Islamic banks operating under Shariah law principles presents unique and understudied challenges. Islamic banks, which now manage over $2.5 trillion in assets globally and are growing at 10-12% annually, operate under fundamental religious principles that prohibit interest (riba), excessive uncertainty (gharar), and speculation (maisir). These foundational constraints mean Islamic banks cannot simply adopt conventional contingent capital structures wholesale. Instead, any contingent capital mechanism must be carefully adapted to ensure both regulatory effectiveness and religious compliance—a dual requirement that significantly complicates instrument design.

Despite the Islamic banking sector's rapid growth and systemic importance in key markets including the Gulf Cooperation Council (GCC) countries, Malaysia, Indonesia, Pakistan, and Turkey, remarkably little research examines appropriate contingent capital structures for Islamic financial institutions. The Islamic Financial Services Board (IFSB) has adapted Basel III standards through IFSB-15, which recognizes PSIAs' theoretical loss-absorption characteristics but provides limited specific guidance on contingent capital instrument design (IFSB, 2013).

Research Objectives

This paper addresses this critical gap in both the contingent capital literature and the Islamic banking literature by examining whether and how clawback provisions can be structured as effective Shariah-compliant contingent capital instruments for Islamic banks. Specifically, we aim to:

1. Determine whether clawback provisions are more or less effective for Islamic banks compared to conventional banks in reducing funding costs
2. Identify optimal trigger levels for clawback provisions that reflect Islamic banks' unique capital structures and risk profiles
3. Understand the mechanisms through which clawback provisions create value for Islamic banks

Research Hypothesis

Building on the clawback framework of Daniels (2018) and the Islamic banking literature, we propose three testable hypotheses:

H1 (Differential Effectiveness): Clawback provisions reduce sukuk spreads more for Islamic banks than they reduce conventional bond spreads for conventional banks.

H2 (Optimal Triggers): Islamic banks' optimal clawback trigger levels are higher than conventional banks' optimal triggers.

H3 (Recovery Effectiveness): Islamic banks with clawback provisions recover capital faster following stress events than those without.

LITERATURE REVIEW

Contingent Capital and Clawback Provisions

The theoretical foundation for contingent capital rests on its ability to automatically recapitalize banks during financial distress without requiring costly and time-sensitive equity issuances that are often impossible during market stress, or government bailouts that create moral hazard and fiscal burdens (Flannery, 2005; Kashyap et al., 2008). By contractually specifying automatic capital infusions triggered by objective measures of bank health, contingent capital aims to reduce procyclicality in the financial system, minimize time-consistency problems in regulatory intervention, and enhance market discipline through credible loss allocation to private investors rather than taxpayers.

Contingent convertible bonds (CoCos) have emerged as the dominant implementation of contingent capital globally, with over $500 billion issued since 2009, particularly following Basel III's Additional Tier 1 (AT1) capital requirements (Avdjiev, Kartasheva, & Bogdanova, 2013). CoCos automatically convert to common equity when issuers breach predetermined triggers, typically specified as capital ratios (mechanical triggers) or at regulatory discretion (point of non-viability triggers). However, despite their widespread adoption, CoCos face substantial implementation challenges that limit their effectiveness and create new risks. The pricing of CoCos exhibits significant complexity due to path-dependent payoffs, conversion ratio uncertainties, and multiple embedded options (De Spiegeleer & Schoutens, 2012; Pennacchi, 2011). This complexity creates information asymmetries that manifest in substantial pricing discounts—CoCos trade at 100-200 basis points wider than comparable non-contingent bonds even after controlling for credit risk (Avdjiev, Bogdanova, Bolton, Jiang, & Kartasheva, 2020). Moreover, CoCos' conversion features can trigger "death spiral" dynamics: as banks approach conversion triggers, anticipated equity dilution can depress stock prices, further weakening capital ratios and accelerating conversion in a self-reinforcing negative feedback loop (McDonald, 2013; Sundaresan & Wang, 2015).

Against this backdrop, Daniels (2018) proposes an alternative contingent capital structure: corporate bond clawback provisions. Rather than converting to equity, clawback bonds require partial principal repayment from bondholders to the issuing bank when capital ratio triggers are breached. For example, a clawback bond might require bondholders to repay 20% of principal if the issuer's CET1 ratio falls below 10%. This repayment immediately strengthens the bank's capital position by converting bondholder claims into equity, but does so through a debt reduction mechanism rather than equity issuance.

Daniels (2018) demonstrates that clawback provisions offer several advantages over CoCos. First, pricing is significantly simpler because clawback bonds avoid complex equity conversion dynamics—they remain debt instruments throughout their life with a straightforward contingent principal reduction feature that can be valued using standard credit pricing models augmented with a contingent claim component. Second, clawback provisions avoid shareholder dilution concerns that complicate CoCos valuation and create potential conflicts between existing equity holders and CoCo investors. Third, clawback mechanisms align naturally with existing debt covenant structures and creditor rights frameworks familiar to bond investors, reducing information costs and uncertainty. Daniels' (2018) empirical analysis demonstrates that these advantages translate into economically significant benefits: clawback provisions reduce bond spreads by 12-15 basis points while improving capital stability metrics.

Islamic Banking and Capital Structure

Islamic banks differ fundamentally from conventional banks in capital structure, liability composition, asset characteristics, and governance mechanisms. The prohibition of interest (riba) necessitates alternative financing structures where returns derive from profit-sharing, asset rental, or trade margins rather than predetermined interest rates. Deposits are frequently structured as profit-sharing investment accounts (PSIAs), which theoretically share in both profits and losses, creating a natural capital buffer absent in conventional deposits that carry fixed obligations (Beck, Demirgüç-Kunt, & Merrouche, 2013). However, theory diverges substantially from practice regarding PSIA loss-absorption. Islamic banks engage in extensive profit smoothing—using profit equalization reserves (PER) and investment risk reserves (IRR) to stabilize PSIA returns even when underlying investment returns are volatile or negative (Farook, Hassan, & Clinch, 2012). This practice, termed "displaced commercial return," reflects competitive pressures: Islamic banks operating alongside conventional banks must offer competitive deposit returns to attract and retain depositors. Consequently, during periods of loss or low profitability, Islamic banks absorb investment losses themselves through reduced shareholder distributions rather than passing them through to PSIA holders.

Empirical research reveals that Islamic banks maintain significantly higher capital ratios than comparable conventional banks. Abedifar, Molyneux, and Tarazi (2013) document that Islamic banks hold approximately 2-3 percentage points higher capital ratios on average, likely reflecting both regulatory conservatism and more limited access to capital markets for capital instruments that meet Shariah compliance requirements. Beck et al. (2013) find Islamic banks exhibit lower leverage, higher asset quality, but also lower profitability compared to conventional peers—a pattern suggesting Islamic banks face a capital-profitability trade-off arising from structural constraints. The Islamic Financial Services Board (IFSB) has adapted Basel III standards for Islamic financial institutions through IFSB-15 (2013), which recognizes PSIAs' theoretical loss-absorption characteristics through an alpha factor (α) that reduces capital requirements

proportionally to restricted PSIA exposure. However, IFSB-15 also requires additional capital buffers specifically for displaced commercial return risk—reflecting the empirical reality that Islamic banks protect PSIA holders from losses.

Sukuk Markets and Contingent Features

Sukuk—Islamic bonds structured around asset ownership rather than debt obligations—have grown exponentially, reaching $500+ billion in outstanding issuances (IIFM, 2023). Unlike conventional bonds, sukuk represent proportional ownership in underlying assets, with returns derived from asset cash flows or disposal proceeds rather than interest payments. Several sukuk structures could potentially accommodate contingent capital features. Musharakah sukuk, based on partnership principles, naturally permit profit-and-loss sharing that could include clawback provisions. Mudarabah sukuk, structured around profit-sharing investment, could similarly incorporate conditional return adjustments. However, to date, very few sukuk include explicit contingent capital features, primarily due to regulatory uncertainty and Shariah interpretation challenges (Godlewski, Turk-Ariss, & Weill, 2013). The limited research on contingent features in Islamic finance focuses primarily on conversion mechanics rather than clawback structures. Hasan and Dridi (2011) examine Islamic banks' performance during the financial crisis, finding greater stability than conventional banks but also more limited loss-absorption mechanisms.

METHODOLOGY

Research Design

This study employs a quantitative empirical approach using panel data regression analysis to examine the effectiveness of clawback provisions for Islamic versus conventional banks. Our research design exploits both cross-sectional variation between Islamic and conventional banks and time-series variation in clawback adoption within banks to identify causal effects.

Data Collection

Our sample comprises 20 major banks—10 Islamic and 10 conventional—operating in key Islamic finance markets from 2015 to 2024. We selected banks based on three criteria: (1) total assets exceeding $20 billion, (2) active sukuk/bond issuance during the sample period, and (3) availability of complete financial data. Islamic banks include Al Rajhi Bank, Kuwait Finance House, Dubai Islamic Bank, Abu Dhabi Islamic Bank, Maybank Islamic, Qatar Islamic Bank, Bank Syariah Indonesia, Alinma Bank, Boubyan Bank, and Al Baraka Banking Group. These banks represent major Islamic finance markets: GCC countries (Saudi Arabia, UAE, Kuwait, Qatar, Bahrain), Malaysia, and Indonesia.

Conventional banks include regional peers matched by country and size: National Commercial Bank (now SNB), Emirates NBD, First Abu Dhabi Bank, Qatar National Bank, Maybank, CIMB Bank, National Bank of Kuwait, Bank Mandiri, Riyad Bank, and Commercial Bank of Qatar. We hand-collect data on all public sukuk and bond issuances by sample banks during 2015-2024, yielding 61 securities: 27 Islamic sukuk and 34 conventional bonds. For each issuance, we record: issue date, maturity, amount, credit rating at issuance, issue spread over risk-

free rate (sovereign yield curve), presence of clawback provisions (manual review of prospectuses), trigger levels (if applicable), and underlying sukuk structure (musharakah, mudarabah, etc.).

For each bank, we collect annual data on capital ratios (CAR, Tier 1, CET1), profitability (ROA, ROE), asset quality (NPL/NPF ratio), size (total assets), and leverage. For Islamic banks, we additionally collect PSIA ratios and displaced commercial return (DCR) data from regulatory filings and annual reports.

Data Analysis

Our baseline empirical specification tests H1 (differential effectiveness):

$$Spread_{i,t} = \beta_0 + \beta_1 Islamic_i + \beta_2 Clawback_{i,t} + \beta_3 (Islamic_i \times Clawback_{i,t}) + \beta_4 PSIA\ Ratio_{i,t} + \beta_5 (Islamic_i \times PSIA\ Ratio_{i,t}) + \gamma X_{i,t} + \alpha_t + \delta_c + \varepsilon_{i,t} \quad (1)$$

where $Spread_{i,t}$ is the spread for sukuk/bond i issued at time t, $X_{i,t}$ represents bank-level controls (CAR, ln(Assets), ROA, NPL Ratio, Leverage, Maturity, Rating), α_t are year fixed effects, and δ_c are country fixed effects. Standard errors are clustered at the bank level to account for within-bank correlation.

Our coefficient of interest is β_3, which captures the differential impact of clawback provisions on Islamic versus conventional bank spreads. H1 predicts $\beta_3 < 0$: clawback provisions should reduce spreads more for Islamic banks. For H2 (optimal triggers), we employ a classification approach using F1 scores to evaluate trigger effectiveness:

$$F1\ Score = (2 \times Sensitivity \times Specificity) / (Sensitivity + Specificity)$$

We define capital stress events as instances where CAR declines by more than 5 percentage points year-over-year, then test different trigger levels (8%, 10%, 12%, 14%, 16%) to identify the optimal trigger that maximizes the F1 score. Our identification strategy relies on the staggered adoption of clawback provisions following IFSB-15 implementation in 2019, which provides quasi-experimental variation driven by regulatory changes rather than bank-specific distress. We verify this assumption by confirming that clawback adoption is uncorrelated with lagged CAR changes.

RESULTS AND DISCUSSION

Descriptive Statistics

1 presents summary statistics for our sample. Islamic banks maintain significantly higher capital ratios (mean CAR = 18.0%) compared to conventional banks (17.1%), consistent with prior literature (Abedifar et al., 2013). Islamic banks also exhibit lower leverage (10.1× versus 12.8×) and lower ROA (1.12% versus 1.36%), reflecting both regulatory conservatism and competitive pressures.

Average sukuk spreads for Islamic banks without clawback provisions are 298 basis points, substantially higher than conventional bonds at 205 basis points. This “Islamic premium” reflects several factors: investor unfamiliarity, limited secondary market liquidity, and structural complexity. However, Islamic sukuk with clawback provisions show spreads of only 252 basis points—a 46 basis point reduction—compared to a 13 basis point reduction for conventional bonds (192 bps with clawback versus 205 bps without).

Main Results: Differential Effectiveness of Clawback Provisions

Our baseline regression results testing H1. Column (5), our preferred specification with full controls and fixed effects, shows the Islamic × Clawback coefficient of -28.4 basis points ($p < 0.10$), indicating that clawback provisions reduce spreads an additional 28-33 basis points for Islamic banks beyond the reduction for conventional banks. The total effect for Islamic banks is -43.7 basis points, more than triple the conventional effect of -15.3 basis points. Control variables enter with expected signs: higher CAR reduces spreads (-2.8 per percentage point), larger banks enjoy lower spreads (-10.2 per log-point of assets), and higher NPL ratios increase spreads (+5.2 per percentage point). The PSIA coefficient of +43.2 ($p < 0.05$) indicates that higher PSIA ratios increase spreads, consistent with investor concerns about profit-smoothing risk and displaced commercial return.

Economic Magnitude: For the average Islamic bank (spread = 275 bps without clawback), adding clawback provisions reduces spreads to approximately 229 bps—a 46 basis point reduction or 16.7% decrease. For a $500 million sukuk issuance with 7-year maturity, this translates to approximately $16 million in present-value savings. Across our sample Islamic banks, which collectively issued $8.2 billion in sukuk during the sample period, aggregate savings from clawback provisions would exceed $260 million. These findings strongly support H1: clawback provisions are significantly more effective at reducing funding costs for Islamic banks than conventional banks.

Optimal Trigger Levels for Islamic Banks

Evaluates different trigger levels using classification metrics. For conventional banks, the optimal trigger is 10% (F1 score = 0.67), balancing a sensitivity of 72% against specificity of 81%. For Islamic banks, the optimal trigger is 12% (F1 score = 0.71), approximately 2 percentage points higher. This higher trigger reflects Islamic banks' higher baseline capital ratios (mean 18% versus 17%) and lower capital volatility.

These results support H2: Islamic banks' optimal clawback triggers are approximately 2 percentage points higher than conventional banks' triggers, reflecting their different capital profiles. Regulators should permit higher trigger levels for Islamic banks rather than mechanically applying Basel III's 7% CET1 minimum. Our evidence suggests 10-12% triggers are optimal for Islamic banks, well above regulatory minimums but appropriate for their risk profiles.

Robustness Tests

We conduct several robustness tests to validate our main findings. Subsample analysis shows the Islamic × Clawback coefficient is negative and significant in both GCC and Asian regions, though larger in magnitude for GCC banks (-35.1 versus -22.4), likely reflecting GCC markets' greater familiarity with Islamic finance. Alternative specifications confirm our results are robust to using log(spread) as the dependent variable, including bank fixed effects, restricting to rated sukuk only, and focusing on the post-2019 period following IFSB-15 implementation. Placebo tests construct "placebo clawback" indicators for securities issued 1-2 years before banks actually adopted clawback provisions. The placebo coefficient is small and insignificant (2.3, $p = 0.74$), while our actual clawback effect remains significant, validating causal interpretation.

Mechanisms: Why Are Clawbacks More Effective for Islamic Banks?

We investigate three potential mechanisms explaining clawback provisions' superior effectiveness for Islamic banks.

Mechanism 1: Structural Compatibility with Profit-Sharing.

Results show that clawback provisions reduce spreads by 52 basis points for profit-sharing sukuk (musharakah or mudarabah) versus 31 basis points for asset-based sukuk (ijarah, murabaha). This 21 basis point differential supports the structural compatibility mechanism: clawback provisions align best with sukuk already emphasizing profit-and-loss sharing.

Mechanism 2: Complementarity with PSIA Loss Absorption.

The negative coefficient on the three-way interaction Islamic × Clawback × PSIA (-18.4, $p < 0.10$) indicates clawback provisions are more effective for Islamic banks with higher PSIA ratios. This suggests investors view clawback and PSIA as complementary loss-absorption mechanisms rather than substitutes.

Mechanism 3: Shariah Governance and Credibility.

Clawback effectiveness increases with Shariah board size (interaction coefficient = -4.2 per board member, $p < 0.10$). Banks with larger, more independent Shariah boards achieve 10-15 basis points greater spread reduction from clawback provisions than banks with smaller boards.

CONCLUSION

This paper demonstrates that clawback provisions function as highly effective contingent capital instruments for Islamic banks, reducing sukuk spreads by 46 basis points compared to only 13 basis points for conventional banks. This 33 basis point differential effectiveness stems from natural alignment between clawback mechanisms and profit-sharing principles inherent in Islamic finance.

Our findings have important implications for Islamic banks, regulators, and the broader development of Shariah-compliant contingent capital. For Islamic banks, clawback sukuk represent an attractive alternative to conventional CoCos, offering substantial funding cost savings while enhancing loss-absorption capacity and maintaining Shariah compliance. Banks should structure clawback sukuk using profit-sharing (musharakah) frameworks and set triggers at 10-12% CET1 to optimize effectiveness.

For regulators, our results suggest IFSB standards should explicitly recognize clawback sukuk as qualifying contingent capital instruments under IFSB-15 while providing flexibility for higher trigger levels (10-12%) appropriate to Islamic banks' risk profiles rather than mechanically applying Basel III's 7% minimum. For sukuk market development, clawback provisions may help close the "Islamic premium" gap by providing credible loss-absorption mechanisms that reduce investor uncertainty.

We identify three mechanisms explaining clawback provisions' superior effectiveness for

Islamic banks: structural compatibility with profit-sharing sukuk structures, complementarity with PSIA loss-absorption, and enhanced credibility through Shariah governance. These mechanisms collectively distinguish Islamic banks from conventional banks in ways that amplify clawback value.

Our analysis has limitations that suggest directions for future research. First, our sample comprises only 61 sukuk issuances, limiting statistical power for some tests. Second, we observe relatively few actual trigger events during our sample period, preventing direct tests of clawback activation effectiveness during actual stress events. Third, our focus on spread effects does not address potential systemic stability benefits. Future work should examine whether widespread clawback sukuk adoption would enhance Islamic banking system resilience.

As Islamic finance continues globalizing and Islamic banks face increasingly sophisticated regulatory requirements, the need for innovative Shariah-compliant capital instruments will grow. Clawback sukuk represent a promising solution that enhances both regulatory compliance and market efficiency while remaining true to Islamic finance's fundamental principles.

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