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IFSB Standards Adoption and Its Impact on Islamic Banking Practices: Evidence from Pakistan

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Abstract. The adoption of the Islamic Financial Services Board (IFSB) criteria for Islamic banks is more challenging for a bigger number of supervisory and regulatory authorities than for conventional banks. This paper investigated the IFSB-15 standard; revised capital adequacy standard for institutions offering Islamic financial services [excluding islamic insurance (takāful) institutions and islamic collective investment schemes], by evaluating the possibility of its adoption within a dual banking system and introduced an analysis of the effects of Islamic banks in Pakistan. The study found that in practise, investment account holders are treated as conventional depositors that are capital-guaranteed rather than basing that allocation on the basis of profit and loss sharing (PLS) in accordance to Sharīʿah norms and stipulations. This treatment forced Islamic banking institutions to take a market-perspective approach to profit distribution. This makes them ensure a steady profit pay-out (paying a competitive rate of return by accepting displaced commercial risk). The paper therefore suggested that the implementation of technical standards has to be accompanied with institutional growth, like that involved in the Islamic banking structure and institutional capacity in accordace to the substance of Sharīʿah norms and stipulations rather than the form.

Keywords: Islamic Banks; IFSB Standard; Capital Adequacy, Pakistan, profit and loss sharing.

JEL CLASSIFICATION: G1; G2; G21; G28
KAUJIE CLASSIFICATION: W

1. Introduction

The financial system of Pakistan is evolving through time in response to the country's economic growth and the government's development objectives. Pakistan's financial sector heavily relies on banks and needs diversification in order to fulfil the future financial requirements (IMF, 2017)). The system consists of the State Bank of Pakistan (SBP) – a central bank, commercial banks, and a variety of non-bank financial institutions (NBFIs) including development financial institutions (DFIs), investment banks, mortgage companies, rental companies, modaraba companies, investment funds, brokerage firms, and insurance companies. The SBP supervises banks and DFIs and is responsible for the monetary policy. Investment banks, leasing firms, insurance companies, modaraba companies and mutual funds are all regulated by the Securities and Exchange Commission of Pakistan (SECP).

Islamic banking in Pakistan has grown rapidly in response to both economic and cultural as well as religious demands (SBP, 2021). The elimination of riba from the economy began in the 1970s, but the most significant and practical steps were taken in the 1980s. The efforts to re-establish the Islamic banking in Pakistan were restarted in 2001, when the government decided to promote this sector in a progressive yet compatible way, in compliance with the highest international standards.

In 2021, the total deposits of the Islamic banking sector were expected to increase by 24.2 percent. By the end of December 2021, the Islamic banking sector's assets grew to 5,577 billion Pakistani rupees (US$31.6 billion), and deposits reached to 4,211 billion rupees (US$23.9 billion). The Islamic banking sector's financing increased by 38.1 percent in 2021. Pakistan also declared an ambitious aim of boosting this sector participation by 76 percent by 2025 (Table 1).

Table 1: Pakistan Islamic Financial Industry Progress (billion Rs.)

Period	No. of Islamic Banks	No. of Branches[1/]	No. of Windows	Assets	Deposits
Dec, 2020	22	3,651	1,579	4,884	3,822
Dec, 2021	22	3,956	1,442	5,577	4,211
Growth (in %)	0	14.5%	-12.9%	18.6%	19.4%

Note: 1/ including sub-branches
Source: State Bank of Pakistan

By the end of December 2021, the network of Islamic financial institutions consisted of 5 full-fledged Islamic banks (IBs), 17 conventional banks with stand-alone Islamic banking branches (IBBs), and 3,956 branches distributed over 125 regions (Table 2).

Table 2: Islamic Banking Industry in Pakistan as of 30 December 2021

Type	Name of Bank	No. of Branches
Islamic Banks	Al Baraka Bank (Pakistan) Limited	176
	BankIslami Pakistan Limited	229
	MCB Islamic Bank Limited	176
	Dubai Islamic Bank Pakistan Limited	210
	Meezan Bank Limited	905
	Sub Total	**1,693**

Islamic *Branches* of Conventional Banks	17 conventional banks (including having standalone Islamic banking branches)	**2,103**
Sub-branches	6 Conventional and 3 Islamic Banks (except for Meezan Bank and MCB Islamic Bank) have sub-branches	**160**
	Grand Total	**3,956**

Like any other majority Muslim country, the Pakistani central bank is working toward the adoption of IFSB standards. This paper evaluated the viability of the IFSB-15 Standard adoption for Islamic banking institutions in Pakistan. This research contributes to the body of knowledge by addressing the following issues: i) conduct the impact study on the IFSB Capital Adequacy Standard; ii) assess the implications of BASEL II on Islamic banks; and iii) review the IFSB standard and propose changes to the Capital Adequacy Standard (CAS) in Pakistan.

The remainder of the paper is organised as follows. Section 2 provided a brief summary of the pertinent literature to the theoretical model of Islamic banks and the empirical investigation of Islamic bank behaviour. In Section 3, the application of IFSB standards in Pakistan was discussed. Section 4 explained how to calculate capital adequacy for Pakistani banks. The methodology adopted in this study as well as the used data were introduced in Section 5. Section 6 was devoted to the discussion of the achieved results, while the conclusion and recommendations were suggested in Section 7.

2. Review of the Theoretical and Empirical Studies

The following features distinguish the Islamic banking concepts from the conventional banking principles: i) risk-sharing, in which financial capital providers and entrepreneurs share business and financial risks in exchange for profit shares; ii) money as potential capital, where the money becomes an actual capital only when combined with other resources to engage in productive activity; iii) prohibition of speculative behaviour, which discourages hoarding and prohibits transactions involving extreme uncertainty, gambling, and risk; iv) money as potential capital, in which money becomes actual capital only when combined with other resources to engage in productive activity; and v) *Sharīʿah*-compliant actions.

Islamic banking seems to lack the need for a radically distinct prudential framework. More broadly, anecdotal evidence indicates that the Islamic banking practice is evolving, albeit not always in the direction of what some regard as the ideal of increased risk and return sharing. Numerous Islamic banks have launched new *Sharīʿah*-compliant accounts that mimic more traditional fixed-return deposits. On the liability side, however, profit-sharing and risk-bearing *Muḍārabah*-based investment accounts continue to be widely used across jurisdictions, accounting for a substantial amount of Islamic banks' funding in the vast majority of countries. (IFSB, 2021).

Islamic financial institutions conform to *fiqh al-mu'amalat* (Islamic commercial jurisprudence), which involves a variety of interest-free commercial contracts that do not share risk in the conventional sense of asset-based contracts. Exchange-based contracts involve the lender selling or leasing the asset to the client (*Ijarah*) and financing working capital via advance purchase or progress payments (*Salam* and *Istisna'*). *Musharakah* and *Muḍārabah* are two types of partnerships based on contracts involving risk sharing or equity.

Risk- and reward-sharing contracts, often in the form of profit-sharing investment accounts, are typically used to mobilise funds on the liabilities side of an Islamic bank's balance sheet. The majority of jurisdictions have witnessed an increase in the use of these investment accounts (IFSB, 2021). Contracts for investment accounts are often constructed on the basis of *Muḍārabah* in the majority of Islamic banks (IFSB, 2021). The *Muḍārabah* contract is not always, and in the case of unrestricted profit-sharing investment ac-

counts, a time-limited investment. In fact, it can continue as long as the contractual terms are favourable to both the *Mudarib* (Islamic bank) and the *Rabb al-mal* (investment account holder), who may also choose to retain his funds voluntarily.

Recent Islamic finance study aims to distinguish between conventional and Islamic bank interest rates through empirical studies, (Ergec and Arslan, 2013; Sarac and Zeren, 2015; Aysan, Disli and Ozturk, 2018; Zulkhibri, 2018). All findings support the notion that overnight interest rate movements have unequal effects on Islamic and conventional banks in Turkey and are strongly cointegrated with conventional bank movements. Similarly, Cervik and Charap (2011) prove that conventional bank deposit rates and profit and loss sharing (PLS) rate of return exhibit a long-run link and that conventional bank deposit rates affect returns on PLS accounts.

Most empirical investigations show that there are no substantial variations in business model or efficiency between Islamic and conventional banks (Beck, Demirguc, and Merrouche, 2013; Abedifar, Ibrahim, Molyneux, and Tarazi, 2015). Hasan and Dridi (2010 discover that Islamic bank profits fell more than those of conventional banks in 2009 and attribute the disparity to Islamic banks' inadequate risk management procedures. Similarly, Rashwan (2012) indicates that prior to the 2007–2009 crisis, Islamic banks were more efficient and profitable than their conventional counterparts, but their efficiency and profitability declined during the crisis.

3. Implementation of IFSB Standards in Pakistan

The Islamic Financial Services Board (IFSB) is an international standard-setting organisation that issues prudential standards and guidelines for the banking, capital markets, and insurance sectors in order to promote and enhance the stability and soundness of institutions offering Islamic Financial Services. Although the majority of Islamic finance countries conform voluntarily to Islamic finance practices (Lukonga, 2015), full compliance is the only way to avoid potential concerns with stability and soundness (Hussain, et al., 2016; Shabsigh et al., 2017). It is essential to evaluate the effect of the standard on Islamic Bank in Pakistan and, value of 'α' under the supervisory discretion and the risk-weights for *Musharakah* and *Muḍārabah*.

As a new standard for Islamic banking institutions, the IFSB-2 on Capital Adequacy Standard for Institutions (other than Insurance Institutions) Offering Only Islamic Financial Services was published in December 2005. The aims and objectives of this standard are:

1. To address the unique structure and contents of *Sharīʿah*-compliant products and services offered by the IIFS that are not addressed by the currently adopted standard.
2. To suggest international capital adequacy standards, *Sharīʿah*-compliant mitigation, and standardise the approach to identifying and assessing risks in *Sharīʿah*-compliant services and products.

The IFSB-2 Capital Adequacy Standard relies heavily on Basel-II principles. The Basel-II framework did not adequately address particular risks associated with certain *Sharīʿah*-compliant Islamic forms of financing or investments, nor the structure or substance of *Sharīʿah*-compliant goods and services. Consequently, significant modifications were made to address these risks. In the existing Basel-II Capital Adequacy Ratio (CAR), the value of 'α' was expected to be 0.7. Changes and additions to the IFSB-2 Capital Adequacy Standard, as well as its implementation and issuance to Islamic banks in Pakistan, could not be implemented.

In January 2009, the IFSB issued IFSB-7 on Capital Adequacy Requirements for *Ṣukūk*, Securitization, and Real Estate Investment in response to concerns that capital adequacy was not adequately addressed by the IFSB-2 Standard, particularly in regard to types of ṣukūk not covered by IFSB-2, ṣukūk origination and issuance, as well as property investment. To address these problems, the IFSB decided to adopt a single supplemental standard, IFSB-7. The standard was developed for non-insurance IIFS. Supervisory agencies could,

at their discretion, apply this criterion to self-contained Islamic 'window' activities or other applicable IIFS in their respective countries. In addition, the risk weighting method should be applied to ṣukūk or real estate investments, especially for non-Islamic "window" corporations and other organisations. However, modifications and amendments for its implementation and standardisation to Islamic banks in Pakistan could not be implemented, either.

The IFSB published IFSB-15: Revised Capital Adequacy Standard for Institutions Offering Islamic Financial Services in December 2013. The IFSB-15 standard consists of six sections and is a combination, revised, and updated version of IFSB-2 and IFSB-7. The standard also includes rules specific to various sources of capital. In addition, the Standard specifies how to apply the additional features introduced by the BCBS in its Basel III papers, such as the capital conservation buffer, the countercyclical buffer (CCB), and the leverage (or common equity to total exposures) ratio, with changes required for IIFS.

Various aspects of the supervisory evaluation procedure, such as capital planning and the Internal Capital Adequacy Assessment Process (ICAAP), were not discussed in detail in this standard (ICAAP). This guideline does not include the Basic and Advanced Internal Rating-Based (IRB) methodologies for determining credit risk capital requirements and the Advanced Measurement Approach (AMA) for computing risk management capital requirements. Supervisory authorities may allow IIFS in their jurisdiction to migrate to advanced techniques at their discretion if they are satisfied with i) the robustness of internal models, ii) the availability of sufficient and reliable data, and iii) the fulfilment of other applicable requirements.

4. Capital Adequacy Standard for the Banking Industry

Banks perform unique roles in the economy, and as a result of their highly leveraged business model, they are subject to stringent restrictions, including large regulatory capital requirements relative to other businesses. Capital adequacy is the extent to which the assets of a bank exceed its obligations, and it is a reliable measure of the bank's solvency or ability to withstand a revenue loss. Bank regulators were concerned about capital sufficiency because their duty is to prevent bank panic and contagion. A bank with such a high capital-to-asset ratio would be better equipped to withstand a sudden collapse than one with a low capital-to-asset ratio. As a result, the likelihood of a bank failing or otherwise being subject to a run decreases. In Pakistan, regulatory capital requirements are enforced both in nominal and risk-based terms (Minimum Capital Requirements – MCR[1]and Capital Adequacy Ratio – CAR respectively).

The Capital Adequacy Ratio (CAR) is a risk-sensitive indicator of capital adequacy used to evaluate a bank's capital sufficiency in light of its exposure to risk. The Basel Committee on Banking Supervision (BCBS) of the Bank for International Settlements (BIS) creates guidelines regarding member countries' risk-based capital adequacy requirements. The Basel Capital Framework specifies the detailed criteria for determining CAR components, namely Total Eligible Capital (TEC) and Total Risk-Weighted Assets (TRWAs). Under this paradigm, the computation of capital (for use in capital adequacy ratios) entails adjustments to the amount of capital reported in the financial statements. The quantity of risk-weighted assets (RWAs) represents a bank's risk-weighted exposure to a specific risk aspect, such as credit, market, or operational risks. CAR is calculated by converting TEC to TRWAs using the supplied parameters.

Pakistan is presently subject to the Basel III Capital Adequacy system, which has been phased in from December 31, 2013, to December 31, 2019, with CAR + CCB norms rising gradually from 10 percent to 12.5 percent. Due to the fact that the Basel Capital Adequacy Framework being implemented in Pakistan does not discriminate between conventional and Islamic institutions,

1 MCR is the absolute amount of paid-up capital/assigned capital (net of losses) required to be maintained by each bank/DFI at all times.

both conventional and Islamic banks in Pakistan apply the same legal and regulatory framework for capital adequacy purposes.

In 2013, the IFSB developed the IFSB-15 standard on capital adequacy ratio to cover the IIFS *Sharīʿah*-compliance. The IFSB-15 standard introduces numerous new capital adequacy-related areas not previously addressed by the IFSB standards. This also intends to provide the supervisory authorities with more comprehensive guidance on implementing capital adequacy criteria for IIFS by combining and enhancing the IFSB-2 and IFSB-7 content, thereby levelling the playing field between IIFS and market players. It also allows financial supervisors the freedom to use it across regions and on small to large and complicated IIFS.

4.1 International Practices with IFSB-15 Capital Adequacy Standard

The supervisory authorities in the various jurisdictions mandate that IIFS use a capital adequacy approach that takes into account the degree of risk-sharing between being an IIFS own capital (shareholder funds) and that of its Investment Account Holders (IAHs). It also considers the resulting levels of Displaced Commercial Risk (DCR) or the associated 'α' factor (Gulf Research Council, 2012). Additionally, assets sponsored or invested by URIA might receive 'α' related discount which would promote the Islamic banking by lowering capital adequacy requirements for IBs. When setting 'α', no specific quantitative technique is used since it is rather perceived as an effort to advance Islamic banking. Table 3 shows the values of 'α' used by various countries to calculate CAR.

Table 3: 'α' levels in different countries for CAR

Country name	Implemented 'α' Value
Qatar*	0.50
Sudan	0.50
Turkey	0.50
Dubai	0.35
Bahrain	0.30
Malaysia	1.00

Source: Gulf Research Council, July 11-14, 2012, University of Cambridge, UK; *Qatar Central Bank Circular No. 6 of 2014.

5. Methodology and Data

5.1 Comparison between Basel III guidelines and IFSB-15 standard

IFSB-15 standard on Capital adequacy of IBIs is basically an Islamic version of Basel III Capital Adequacy accord. The Basel III capital adequacy framework for banks aims to not only establishing a solid foundation for prudent capital regulation, supervision, and market discipline, but also enhancing risk management and financial stability. Therefore, it should not effectively cover the concepts utilised in Islamic finance (Table 4). In response, the IFSB published capital adequacy standards that are mostly based on the Basel methodology, with changes and adaptations to account for the distinctive nature and characteristics of *Sharīʿah*-compliant goods and services.

Table 4. Comparison between Basel III and IFSB-15 standard

IFSB-15 additional features	Gap
1. Additional Tier-1 capital instruments should be *Musharakah Ṣukūk* that are capable of absorbing losses alongside the bank's underlying assets.	Not covered by existing Basel Capital Framework.
2. Tier-2 instruments may be issued as *Musharakah*, *Muḍārabah* or *wakalah.* To	Not covered by existing Basel Capital Frame-

avoid *gharar*, the terms of conversion should be clearly specified. 3. Subordination only in the event of loss absorbency (point of non-viability or insolvency) –not applicable in the ordinary course of business.	work. In IFSB-15, subordination is contingent upon a trigger event only.
4. PER, IRR and profit-sharing investment accounts are not to be treated as part of the regulatory capital. However, the impact of PER and IRR is accounted for in the denominator of IFSB-prescribed CAR calculation. 5. Leverage Ratio - since exposures regarding assets financed by PSIA funds are borne by the IAH, for the purpose of calculating the leverage ratio; these bank exposures are included after deducting any relevant balance of IRR. 6. Leverage Ratio – assets financed by restricted PSIA must not be included in exposure unless they are a source of DCR for the bank.	Not covered by the existing Basel Capital Framework The treatment of PER and IRR for capital purposes needs to be decided Restricted and Un-restricted PSIAs need to be discussed
7. *Zakāh* obligations (on bank's assets) are to be deducted as part of Regulatory Adjustment and Deduction from CET1.	Not covered by existing Basel Capital Framework
8. Discussion on Capital Conservation Buffer (CCB) – additional sections pertaining to profits or interim profits	Not covered by existing Basel Capital Framework Further, more clarity would be required for profits/ interim profits
9. Islamic Windows could be permitted to raise its own capital (through the issue of *Ṣukūk*s) which could then be turned into Islamic Banking Fund (at trigger point). On the occurrence of the trigger, the loss absorbency clause (convertibility into bank's capital or IBF) will be based on whichever comes first (non-viability of Islamic window or the bank).	Not covered by existing Basel Capital Framework
10. Risk weighting regime for nine classes of Islamic financing assets are to be defined in a matrix format, enabling the bank to apply market risk or credit risk based on the corresponding contract stage.	Not covered by existing Basel Capital Framework Treatment of risk weighting regime needs to comply with the IFSB-15 standard.
11. IFSB-15 allows all qualified collaterals to be pledged for Credit Risk Mitigation (CRM) purposes.	Basel rules do not allow pledged assets as collaterals for capital purposes.
12. Under the CRM section, new types of (Islamic) Collaterals like *Hamish Jiddiyah*, *Urbun* etc. have been introduced.	Islamic collaterals are not covered by existing Basel III

13. As per IFSB-15 standard, *Musharakah* or *Muḍārabah* investments in commercial enterprises are risk weighted at 300% (listed) or 400% (unlisted).	SBP Basel III standard requires application of 1000% risk weight on significant investments in commercial entities.
14. IFSB-15 allows the use of Supervisory Slotting Method to apply risk weights to projects or commercial enterprises.	SBP Basel rules restrict the use of Supervisory Slotting Method under IRB approach only (not under standardized approach).
15. Under Market Risk Section, Section pertaining to Commodities and Inventory Risk.	Existing SBP Basel directives do not account for Commodity and Inventory Risk.
16. IFSB-15 includes section on *Ṣukūk* and Securitization and investment in Real Estate Activities	Basel guidelines contain conventional securitization instructions that are distinct from its Islamic equivalent.
17. CAR formula and method for calculating 'α'	Basel CAR formula differs from that of the IFSB-15, which does not prescribe IRR, PER and the use of 'α' to reduce Risk Weighted Assets. Required to fulfil the disclosure requirements and Excel format for 'α' calculations. IBD has to develop the Profit Distribution mechanism, pool administration, and weighting assignment in order to complete the 'α' calculation format. In addition, the protection of depositors' principal has to be analysed in light of existing laws and regulations.

Source: author's own

Numerous IBIs provide capital-protected products that necessitate a capital charge on the liabilities side of the balance sheet. In addition, the relationship between the special risk of *Sharīʿah*-compliant financial institutions and conventional financial risks is largely overlooked. Out of the various IIFS distinguishing aspects covered in IFSB-15 and its related standards already implemented in Pakistan, IBIs must adhere to additional regulations for *Sharīʿah* Governance and compliance etc. In addition, under the Pool Management Guidelines, IBIs in Pakistan may maintain reserves whether they are profit equalisation reserves (PER) or investment risk reserves (IRR), to smooth out the income or cover the losses. Furthermore, until December 2014, *Hibah* (general and special) mitigated the Displaced Commercial Risk but since January 2015, IBIs are not allowed to offer special *Hibah*.

The CBP conducted a special evaluation to determine the viability of the IFSB-15 standard, which may aid IBIs in calculating CAR for improved capital adequacy management. In this regard, the CBP investigates the viability of IFSB-15 as a parallel standard to Basel-III. To evaluate the adoption of the IFSB-15 standard for IBIs in Pakistan, the following quantitative and qualitative research techniques were used by the CBP: review and analyse the 2010 impact study on IFSB-2; research international practices regarding the IFSB-15adoption; review papers, data, and information pertinent to the standard; collect data from IBIs on CBP and IFSB templates; and perform extensive data analysis.

The CBP developed a template (i.e., CBP-Alpha template) based on GN-04 of IFSB for the calculation of 'α', while the IFSB provided a template. The main difference between the two tem-

plates is the value of 'C' that is used only in CBP-Alpha **'α'** template and not in IFSB template. The value of 'C' is the confidence interval at 99 percent confidence level. The study determined the value of the two under Section 5.1 templates. In Section 5.2, the study matched the CBP templates with IFSB templates established on RWA for IBIs in order to develop a harmonised template that incorporates the components of both Basel III and IFSB templates on RWA. The standard formula for calculating CAR is given below.

$$\frac{Eligible\ Capital}{\left\{\begin{array}{c} Total\ Risk - Weighted\ Assets\ (Credit + Market\ Risks) + Operational\ Risk \\ Less \\ Risk - Weighted\ Assets\ Funded\ by\ PLS\ A/C\ (Credit + Market\ Risks) \end{array}\right\}}$$

In order to reduce shifted commercial risk, withdrawal risk, and systemic risk, the IFSB modified the fundamental technique to include reserves held by IBIs. In markets where IBIs maintain PER and IRR, the supervisory authorities retain the authority to adjust the denominator of the CAR calculation. The following is the IFSB-15 standard formula for calculating CAR.

$$CAR = \frac{Eligible\ Capital}{\left\{\begin{array}{c} Total\ Risk - Weighted\ Assets\ (Credit + Market\ Risks) + Operational\ Risk \\ Less \\ Risk - Weighted\ Assets\ Funded\ by\ PLS\ A/C\ (Credit + Market\ Risks) \\ Less \\ (1-\alpha) Risk - Weighted\ Assets\ Funded\ by\ Unrestricted\ PLS\ \frac{A}{C}(Credit + Market\ Risk) \\ Less \\ \alpha[Risk - Weighted\ Assets\ Funded\ by\ PER\ and\ IRR\ of\ Unrestricted\ PLS\ A/C(Credit + Market\ Risk)] \end{array}\right\}}$$

The IFSB-15 formula for CAR now includes 'α' component in the denominator, which impacts the denominator values for any 'α' value (0, 1 or between 0 and 1) This influence of the '**α**' factor does not appear in the typical formula for calculating the CAR's denominator. For the analysis, monthly data are compiled from four selected banks (Bank A, Bank B, Bank C, and Bank D), while secondary data for qualitative analysis are obtained from various sources.

6. Empirical Results

6.1 Calculation of 'α' under CBP-Alpha template

If PSIAs are utilised as risk absorber, the CAR denominator will be reduced by the volume of the PSIAs (both restricted and unrestricted) while the related operational risk is borne by the bank. When the banks use PER to mitigate DCR rather than allow the IAHs to absorb the losses i.e., when DCR exists, the IBI requires the denominator of the capital ratio to include a specified proportion of assets funded by the investment account owner. This percentage, known as 'α', reflects a proportion of business risk borne by Islamic financial institutions as a result of the DCR implementation. The IAH is required to absorb a portion of the commercial risks indicated by the residual value (1- α). IBI's PER and IRR were not included in their capital according to the IFSB-15.

Under the CBP-Alpha template, the following description is used to calculate the values of 'α':

Alpha = DCR / Maximum DCR

where 'DCR' is a Displaced Commercial Risk

DCR = Ul_1 – Ulo and
Maximum DCR = Ul_2 – Ul_1, hence,
Alpha = [Ul_1 – Ul_o] / [Ul_2 – Ul_1]

Unexpected Loss is denoted by Ul_o under Scenario-1; Ul_1 under Scenario-2 and Ul_2 under Scenario-3.

i) Scenario-1 (Ulo): *PSIAs are treated as Pure Investment Products (PIP)*

In this scenario, IAH is responsible for any commercial risks linked with the assets it finances. In other words, there is no actual 'smoothing' of IAH payments. As a result, there would be no DCR, and the values of 'α' and 'w' will be zero. In this scenario, additional risk factors, including PER and IRR, as well as income transfer from shareholders to IAH, would be zero, thus *Mudarib's* share would be fixed (i.e., 'α' = 0, w = 0, RI = RA – SP, and IRR/PER = 0). As a result, the rate of return to shareholders would be solely determined by the rate of return on investment (i.e., return on assets and *Mudarib's* share):

$$RE0 = RA - SP$$

ii) Scenario-2 (Ul_1): *PSIAs are treated as pure deposit-like products (PDP)*

IAH bears no losses throughout this hypothetical scenario, while owners face all the commercial risks associated with assets financed by IAH. As a result, the DCR is at its maximum, and the values of 'α' and 'w' would also be at their maximum – that is, 1 – whereas some risk determinants such as PER and IRR, *Mudarib's* share, as well as earnings transition from shareholders to IAH would then differ depending on the IIFS pay out policy (i.e., under this scenario, 'α' = 1, w = 1, $R_I = R_m$). The equity rate of return is as follows:

$$RE_1 = (R_A - S_P) + DI/K.\ (R_A - S_P - R_m)$$

iii) Scenario-3 (Ul_2): *PSIAs are treated in between PIP and PDP*

In scenario 3, the PSIAs are regarded as a middle ground among pure investment or deposit-like assets. The letter "C" stands for a constant factor that is being used as a dummy variable. It may have a negative value to account for the difference between rate of return on assets and the rate of return on IAH as well. In this scenario, which represents a midway ground between the two extreme scenarios (Scenarios 1 and 2), the payment to IAH seems to be a weighted average of market and investment returns. As a result, there has been some risk-reward sharing between IAH and IIFS shareholders, leading to certain DCR. As a result, the values of 'α' and 'w' would be set between zero and just one. PER and IRR, *Mudarib's* share, or income transfer from shareholders to IAH, which are determined by the IIFS pay out policy and the sufficiency of IAH's reserves, are additional risk factors. The rate of return on investment is calculated as follows:

$$RE_2 = (R_A - S_P) + DI/K.\ w.\ (R_A - S_P - R_m)$$

Ul_o is a multiple of standard deviation (SD) of Re_o (UL-Scenario-1)
Ul_1 is a multiple of standard deviation (SD) of Re_1 (UL-Scenario-2)
Ul_2 is a multiple of standard deviation (SD) of Re_2 (UL-Scenario-3)
Re – Rate of return on shareholders' equity
Re_o – PSIAs are treated as pure investment products (PIP)
Re_1 – PSIAs are treated as pure deposit-like products (PDP)
Re_2 – PSIAs are treated in between PIP and PDP
PSIA – Profit sharing investment account
RM- Muḍārabah income
K – Shareholders' funds
(1-β) – Mudarib share
A – Total assets
R_k – Rate of return on shareholders' funds that is invested in other assets
R_p - Appropriation to PER as % of total assets
S_p – Provisions made out of current income as % of total assets (Total Provision of Current Income/Average Assets)
R_A - Gross rate of return on assets
IAH –Investment account holder
*$R_1 = \beta * RM/D_1$-RIR and put value of RM**

$R_1 = \beta*[A*(R_A-R_p-S_p) - KR_k]/D_1-RIR$

R_1 - *Rate of return attributable to IAH*

β - *IAH's share of Mudarib profit*

D_1 - *PSIAs funds*

RIR – *Investment risk reserve*

KR_k – *Income attributable to shareholders outside of Muḍārabah*

$*R_M = [A*(R_A-R_p-S_p) - KR_k]$

$R_M = A*(R_A-R_p-S_p) - KR_k$ …… *(a)*

$R_k = A/K*(R_A-S_p-R_p-D_k)$ ……*(b)*

$R_i= W*(R_m)+(1-W) *R_A+C$ ……*(c)*

R_m – *Market benchmark rate*

R_i –*Rate of return to be paid to IAH*

W – *Weight attached to Rm in the decision on pay-outs to IAH*

D_k – *May take the form of a donation, out of shareholder's profit*

$Re = (1-\beta) *[R_M/K+A*Rp /K] +R_k$ …… *(1)*

$Re_o = (R_A-S_p)$ …… *(2)*

$Re_1 = (R_A-S_p) +D1/K*(R_A - S_p - R_m)$ …… *(3)*

$Re_2= (R_A-S_p) +D1/K*W*(R_A - S_p - R_m)$ …… *(4)*

A regression was applied for the calculation of 'W' using the CBP-Alpha template on the data from eight selected banks applying the following equation (derived from Eq. c above).

$$W = [R_i – R_A - C] / [R_m - R_A$$

Table 5a: Calculation of W and 'α' based on IFSB templates

		Avg. Dep. Rates		***Ṣukūk* rates**		**T-Bills rates**	
No.	Bank Name	W	'α'	W	'α'	W	'α'
1	Bank A	0.33	0.36	0.34	0.32	0.35	0.33
2	Bank B	0.39	0.37	0.32	0.33	0.34	0.34
3	Bank C	0.38	0.38	0.38	0.39	0.39	0.37
4	Bank D	0.59	0.71	0.26	0.22	0.36	0.29

Source: author's own

The results under the CBP-Alpha template (Appendix 1) do not fulfil the requirements of 'C' and the values of 'α' and 'W' are found negative. Therefore, we proceed to the calculation '*α'* under the IFSB template.

6.2 Calculation of 'α' under the IFSB

As the results of CBP-Alpha template were unanticipated, the study calculated the values of 'W' and 'α' using the IFSB template. The data of four banks were analysed using three different market rates i.e., *Sukuk* rates, Treasury Bill (T-Bill) rates and average deposit rates. The regression results are displayed in Tables 5a, Table 5b and Table 6. The study calculated the values of W and α, using three market rates. These market rates were applied on panel data to calculate W and 'α'.

The panel data helped reduce the residual errors in the time series data and the regression model used in the template contained parameters for return on assets and profit paid to IAHs by banks. In this model, there is no dummy variable and the actual data from the four selected banks provided suitable values for W and 'α'.

Table 5b: Panel Data Regression for the calculation of W and 'α'

Market rates	Unexpected loss to shareholders (Ul_0)	Unexpected loss to share-holders (Ul_1)	Unexpected loss to shareholders (Ul_2)	Value of 'W'	'α' = (UL_2-UL_0) / (UL_1-UL_0)
Ṣukūk	0.3991	56.836	29.141	0.51	50.92 %
Average Deposits	0.3991	56.821	34.877	0.63	62.41%
T-Bills	0.3991	57.192	21.060	0.37	37.82 %

Source: author's own

Credit RWA attempts to determine the level of credit risk associated with the various asset categories based on the obligor and asset type. Market RWA attempts to measure the market risk associated with a certain asset class based mostly on the asset's issuer or maturity. Operational risk is the risk of losses either from insufficient or failed internal procedures, people, and systems, or from external events, such as legal risk and *Sharīʿah* non-compliance risk. This definition excludes both strategic and reputational considerations.

Table 6 is a summary of a comprehensive review of data received from four banks. It is found that the CAR values are based on three categories: (i) Tier-1 to adj. RWA amount, (ii) Total Eligible Capital to adj. RWA both without impact of 'α' and (iii) Capital Adequacy Ratios (Supervisory Discretion Formula) with impact of 'α'. These values were calculated using three market rates i.e., *Ṣukūk* rates, Average Deposit rates and T-Bill rates.

Table 6: Calculation of CAR based on IFSB-15 Standard RWA Format (in Million Rupees)

		Bank A	Bank B	Bank C	Bank D
	a. Tier-1 Capital	*7,333*	*9,779*	*10,654*	*32,014*
	b. Tier-2 Capital	1,115	1,646	2,729	9,123
1	Eligible Capital = (a + b)	8,448	11,425	13,383	41,227
	c. RWA Credit Risk	73,596	58,233	89,396	253,576
	d. RWA Market Risk	2,723	530	1,479	11,952
	e. RWA Operational Risk	7,947	9,695	8,189	39,323
2	Total Risk Weighted Assets (TRWA) = (c + d + e)	84,266	68,458	99,064	304,851
3	Total Adjusted RWA*	39,045	41,471	46,261	180,019
4	CAR *without* 'α' impact on RWA				
	(i) Tier-01 to adjusted RWA	19	24	23	18
	(ii) Total Eligible Capital to adj. RWA	22	28	29	23
5	(iii) CAR *with* 'α' impact on RWA				
	CAR based on *Ṣukūk* rates	22	26	19	20
	CAR based on average deposit rates	21	16	19	15
	CAR based on T-Bills rates	22	26	22	19

Note: *Total adjusted RWAs are calculated by subtracting the sum of Total RWA funded by PLS account and RWAs funded by PER and IRR from Total RWAs amount.

Source: author's own

6.3 CAR calculation under IFSB-15

The analysed data was collected from some selected banks and the IFSB-15 template was used for CAR calculation for the month of September 2019. The Bank wise analysis in Table 7 shows that Bank A has similar CAR values (22%) for: i) *Sukuk* rates and ii) T-Bills rates, but a lower CAR value (21%) for average deposit rates. Similarly, Bank B has similar CAR values (26%) for: i) *Sukuk* rates and ii) T-Bills rates, but a lower CAR value (16%) for average deposit rates. Bank C has similar CAR values (19%) for i) average deposit rates and ii) *Sukuk* rates, too. Nevertheless, it has a higher CAR value (36%) for T-Bills rates. Bank D has no comparable CAR value under the three rates. The analysis is based on the following regression model.

$$\mathbf{R_i = Constant + a_1 * ROA + W * R_m}$$

The analysis ran a regression on the data and calculated the value of 'W', which is a weighted rate that banks apply to market rates while calculating 'R_i' i.e., returns payable to IAHs. As 'α' has significant importance in the calculation of CAR, the value of 'W' is significant for 'α' estimation. W is the multiple of market rate (R_m), ROA is return on Assets and a_1 is the ROA coefficient. The discretionary power of the regulator has a significant impact on the selection of one rate (R_m) among the three market rates (Average deposit, Sukuk and T-Bills) used in the analysis (Table 7). The results of Table 7 corroborate with Table 5a that depicts the value of 'α' ranges from 0.22 to 0.71. These values are in conformity and under the limits of 'α' values implemented by the six countries under study.

Table 7: Calculation of CAR based on IFSB Standard

		Under IFSB Template		
No.	Bank Name	**Average Deposit**	***Sukuk***	**T-Bills**
1	Bank A	21	22	22
2	Bank B	19	26	26
3	Bank C	19	19	36
4	Bank D	15	20	19

Source: author's own

6.4 Panel Data Analysis for CAR

A panel data analysis was conducted for the 'α'calculation in order to have a comprehensive insight of the impact of three market rates on IAHs' returns from IBIs. Table 8 illustrates these values using panel data for all banks and provides a summary of the CAR results.

Table 8: Results for Panel data on 'α' calculation for CAR

		Million Rupees			Capital Adequacy Ratio (CAR)		
		Capital		Adj. RWA	Under IFSB Template		
No.	Bank Name	Tier-1	Total		**Average Deposit**	***Sukuk***	**T-Bills**
1	Bank A	7,333	8,488	39,045	13	15	17
2	Bank B	9,779	11,425	41,471	19	21	23
3	Bank C	13,383	13,383	46,261	16	19	22
4	Bank D	32,015	41,227	180,019	15	17	19

Source: author's own

Table 9 provides a conclusive comparison of the CAR values calculated using different values of 'α' under the IFSB template and different values of CAR calculated using the CBP-CAR template, based on Basel III. The findings show that when α=1, all the selected banks generate low CAR values with the exception of Bank B; the CAR values for all the banks are approximately similar to the CAR values under CBP-CAR template. However, when α=0 is used, all the selected banks yield high CAR values. In fact, in this case, no single value of CAR is close to the CAR values calculated using CBP-CAR template. It also confirms the inverse relationship between **'α'** and CAR. CAR values derived using the IFSB template and based on three market rates indicates that Average Deposit rates yield lower CAR values than the other two market rates as shown below:

Table 9: Calculation of CAR under different values of 'α'

No.	Bank Name	Values of CAR based on CBP-CAR Template	Values of CAR at different values of 'α'				
			α=0	α=1	'α' at Average Deposit	'α' at *Sukuk*	'α' at T-Bills
1	Bank A	11%	22%	11%	12%	22%	22%
2	Bank B	13%	28%	17%	14%	26%	26%
3	Bank C	13%	29%	14%	16%	19%	22%
4	Bank D	14%	23%	14%	15%	20%	19%

Source: author's own

The study further computed the RWAs values based on data obtained from four banks and a comprehensive mapping of two templates. In the IFSB template, the RWAs are based on different risk weights of the Islamic finance modes (*Mudarabah*, *Musharakah*, and *Mudarabah* and *Ijarah* etc.) and *Sukuk*, whereas in CBP-CAR templates, they used debt-based modes. Therefore, the IFSB format is deemed to be more suitable than the CBP-CAR template for the calculation of RWAs and CAR for IBIs.

7. Conclusion

The study of market practices reveals that IAHs are treated as conventional PLS deposits that are capital-guaranteed. IBIs take a market perspective on profit distribution, which in turn makes it virtually obligatory to distribute profits smoothly (accepting DCR and paying a competitive rate of return, i.e., to cushion losses. From a *Shari'ah* standpoint, IAH should be considered as a pure investment with no promise of principles or profits. To analyse these issues, three different market rates (Sukuk, T-Bills, and Average Deposits) were used as benchmark rates for the calculation of 'W', 'α', and DCR. The average deposit rate is the best estimator among the three rates used in these computations, as the CAR values for all the selected bank institutions are close to those of Basel III.

This analysis suggests that the rights of PLS depositors/IAHs are not specifically protected by the existing legal framework due to their loss-sharing and risk-taking characteristics. Moreover, in the event of an IBI liquidation, the priority of claims does not take into consideration the deposit/investment account hierarchy. Concerning the maintenance and

recording of data/information for CAR (IFSB-15), the study indicated that the maintenance of the system-based data required for CAR computation under the IFSB-15 is a serious concern. In addition, there was a lack of essential data due to the unavailability of suitable software applications and their integration with the core banking application. In addition, IBIs disclose capital adequacy in a comparable way as that of conventional banks, i.e., by assigning risk weights based on counterparty, even for products such as *Musharakah*, which are classified as investment or financing.

International regulatory and *Shari'ah* standards such as IFSB and AAOIFI require fulfilling the fiduciary responsibility. Each IBI should have a Governance Committee, a body charged with overseeing governance matters pertaining to IAH. IBIs must have an effective accounting system that can determine the type of each asset at the time of reporting, since the risk weights fluctuate with the change in the nature of bank assets. To monitor the PLS depositor or IAHs based pool activities, separate disclosure requirements must be met. A review on IFSB standards and documents considering major updating or advancement of BCBS consultative documents may affect their adaptation.

The assessment of the IFSB-15 adaptation in other jurisdictions shows that in almost all countries (Bahrain, Oman, Qatar, and Sudan), this standard was adopted partially on a subjective basis by allowing low risk weights for assets financed/invested by UIAHs through supervisory discretion. This was allowed due to underlying *Shari'ah* compliant contract (often *Mudarabah*-based) between UIAH and IBI on risk (proportional loss to their investment) and reward on agreed profit-sharing basis after securing adequate supporting regulatory measures. The formation of a governance committee (at board of directors or senior management level with *Shari'ah* board of IBI representation) to oversee and protect IAHs interests, risk warnings with mitigation, periodic transparent disclosures regarding the use of smoothing methods (PER and IRR), transparent and fair profit calculation and distribution IT-based system, and deposit insurance coverage, to name but a few, are regulatory steps adopted by the above-mentioned countries.

In Pakistan's current legal and regulatory framework, the adoption of IFSB-15 without solving or addressing the mentioned flaws does not seem to be rational. The study implies that the Malaysian model may be followed i.e., the value of 'α' may be '1' if a legal framework and complete rules are promulgated. Before the implementation of capital standard on 'α', Islamic banks should institutionalise and strengthen the framework of PER and IRR for smoothing returns to investment account holders and preventing any element of *hibah* to IAHs as proven in the findings of this study.

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Appendix 1

A1. Summary on Bank As' monthly data for 'W' and 'α'

Market rates	Unexpected loss to shareholders (UL_0)	Unexpected loss to shareholders (UL_1)	Unexpected loss to shareholders (UL_2)	Value of 'W'	ALPHA = (UL_2-UL_0) /(UL_1-UL_0)
Ṣukūk	0.0153	0.1444	0.0316	-0.2147	12.6 %
Avg Dep.	0.0153	0.1072	0.0827	0.7485	73.3 %
T-Bills	0.0153	0.1130	0.0471	-0.3887	32.6 %

A2. Summary on Bank Bs' monthly data for 'W' and 'α'

Market rates	Unexpected loss to shareholders (UL_0)	Unexpected loss to shareholders (UL_1)	Unexpected loss to shareholders (UL_2)	Value of 'W'	ALPHA = (UL_2-UL_0) /(UL_1-UL_0)
Ṣukūk	0.0159	0.0367	0.0297	0.7077	66.5 %
Avg Dep.	0.0159	0.0412	0.0423	1.0429	104.54 %
T-Bills	0.0159	0.0921	0.0518	-0.5100	47.11 %

A3. Summary on Bank Cs' monthly data for 'W' and 'α'

Market rates	Unexpected loss to shareholders (UL_0)	Unexpected loss to shareholders (UL_1)	Unexpected loss to shareholders (UL_2)	Value of 'W'	ALPHA = (UL_2-UL_0) /(UL_1-UL_0)

Ṣukūk	0.0599	98.3615	48.7198	0.4950	49.5 %
Avg Dep.	0.0599	97.0342	97.5394	1.00520	1.01%
T-Bills	0.0599	99.6010	35.6899	-0.35893	36.8%

A4. Summary on Bank Ds' monthly data for 'W' and 'α'

Market rates	Unexpected loss to shareholders (UL_0)	Unexpected loss to shareholders (UL_1)	Unexpected loss to shareholders (UL_2)	Value of 'W'	ALPHA = (UL_2-UL_0) /(UL_1-UL_0)
Ṣukūk	0.0004	15.5521	0.4067	-0.0261	2.61 %
Avg Dep.	0.0004	9.2132	0.6842	-0.07427	7.33 %
T-Bills	N.A	N.A	N.A	N.A	N.A

A5. Summary on Bank Es' monthly data for 'W' and 'α'

Market rates	Unexpected loss to shareholders (UL_0)	Unexpected loss to shareholders (UL_1)	Unexpected loss to shareholders (UL_2)	Value of 'W'	ALPHA = (UL_2-UL_0) /(UL_1-UL_0)
Ṣukūk	0.0108	0.1406	0.0173	- 0.1032	5.01 %
Avg Dep.	0.0108	0.0764	0.0102	- 0.1488	-0.93 %
T-Bills	0.0108	0.1036	0.0144	- 0.0702	3.82 %

A6. Summary on Bank Fs' monthly data for 'W' and 'α'

Market rates	Unexpected loss to shareholders (UL_0)	Unexpected loss to shareholders (UL_1)	Unexpected loss to shareholders (UL_2)	Value of 'W'	ALPHA = (UL_2-UL_0)

					/(UL_1-UL_0)
Ṣukūk	N.A	N.A	N.A	N.A	N.A
Avg Dep.	0.0180	0.1602	0.1397	0.8676	85.57 %
T-Bills	0.0180	0.0322	0.0207	-0.3549	18.59 %

A7. Summary on Bank Gs' data for 'W' and 'α'

Market rates	Unexpected loss to shareholders (UL_0)	Unexpected loss to shareholders (UL_1)	Unexpected loss to shareholders (UL_2)	Value of 'W'	ALPHA = (UL_2-UL_0) /(UL_1-UL_0)
Ṣukūk	0.0412	0.2656	0.0468	0.0737	0.25 %
Avg Dep.	0.0412	0.3232	0.0411	- 0.0125	-0.03 %
T-Bills	0.0412	0.2929	0.0516	0.1012	4.13%

A8. Summary on Bank Hs' monthly data for 'W' and 'α'

Market rates	Unexpected loss to shareholders (UL_0)	Unexpected loss to shareholders (UL_1)	Unexpected loss to shareholders (UL_2)	Value of 'W'	ALPHA = (UL_2-UL_0) /(UL_1-UL_0)
Ṣukūk	N.A	N.A	N.A	N.A	N.A
Avg Dep.	0.0566	0.3224	0.1027	-0.4659	17.33 %
T-Bills	0.0566	0.2114	0.17885	0.7927	78.93 %

Note: N.A denotes not applicable

Appendix 2

B1. Panel Data Regression Analysis for Calculation of 'W' and α

Market rates	Unexpected loss to shareholders (UL_0)	Unexpected loss to shareholders (UL_1)	Unexpected loss to shareholders (UL_2)	Value of 'W'	ALPHA = (UL_2-UL_0) /(UL_1-UL_0)
Ṣukūk	0.3024	41.1883	3.3565	-0.0774	7.47 %
Avg. Dep.	0.3024	40.4502	0.2502	-0.0049	-0.13 %
T-Bills	0.3152	44.1144	6.5468	-0.1448	14.23 %

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اعتماد معايير مجلس الخدمات المالية الإسلامية و أثره على الممارسات المصرفية الإسلامية: أدلة من باكستان

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المستخلص. ينطوي اعتماد معايير مجلس الخدمات المالية الإسلامية الخاصة بالمصارف والمؤسسات المالية الإسلامية، مقارنة بالبنوك التقليدية، على تحديات كبيرة للعديد من السلطات الإشرافية والتنظيمية. تُسَلِّط الدراسة الحالية الضوءْ على معيار المجلس الخامس عشر (١٥)؛ المتعلق بكفاية رأس مال المؤسسات التي تُقدم خدمات إسلامية (يُستثنى من ذلك مؤسسات التكافل وصناديق الاستثمار)، من خلال تقييم إمكانية اعتماده ضمن نظام مصرفي مزدوج، عبر مقاربة تقوم على تحليلٍ الآثار التي يمكن أن تترتب على تطبيق هذا المعيار على المصارف الإسلامية في باكستان. توصلت الدراسة إلى أنه من الناحية العملية يتم التعامل مع أصحاب حسابات الاستثمار كأنهم مودعون تقليديون لا يتقاسمون الربح والخسارة -كما هو مطلوب وفق معايير الشريعة وضوابطها-؛ حيث يتم ضمان رأس المال بغض النظر عن نتيجة المشروع الذي استخدمت فيه تلك الأموال. وهذا ما فرض على المؤسسات المصرفية الإسلامية إلى اتباع منهج يتماشى مع ما هو سائد في أسواق المال لتوزيع الأرباح، لأن ذلك يضمن لها عائدًا ثابتًا للربح (دفع معدل عائد تنافسي من خلال قبول المخاطر التجارية المستبدلة). توصي الورقة بأن يترافق تطبيق المعايير الفنية لمجلس الخدمات المالية الإسلامية مع نمو مؤسسي مماثل لما يتضمنه الهيكل المصرفي الإسلامي والقدرة المؤسسية وفق قواعد الشريعة وضوابطها حقيقة لا شكلاً، مضمونًا لا مظهرًا.

الكلمات الدَّالة: البنوك الإسلامية، معايير مجلس الخدمات المالية الإسلامية، كفاية رأس المال، باكستان
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