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The effect of Covid-19 on Stock Market Returns: Evidence from Italy and China

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ABSTRACT

This study investigates the relationship between novel coronavirus COVID-19 confirmed cases and deaths on stock market return in China and Italy. The study is unique in the context of China and Italy, as these two countries suffered badly at the start of this pandemic. This study empirically analyzes the daily confirmed cases and deaths for the period from February 15, 2020, to March 2020. This study uses data from FTSE (Milano Italia Borsa) and Shanghai Stock Exchange of top 40 and 50 companies, respectively, for stock returns. The COVID-19 data is collected daily by Worldometer. Using panel data on Chinese and Italian stocks, it was found that there is a negative association between stock returns and the total number of confirmed cases and deaths. This study will allow financial policymakers to assess the financial crisis in this COVID-19. Additionally, this study highlights the economic impact of COVID-19 by analyzing its impact on stock returns.

Key Words: COVID-19, Stock return, Panel data analysis, Italian stock market

1. Introduction

A Global Risk Report 2020 (WEF 2020, published on January 15, 2020) ranks the novel coronavirus (Covid19) infectious disease in 10th place in terms of its impact

on the global stock market. World history has seen several deaths from infectious diseases, including the plague outbreak of 1347-1351, the bleeding fever of 1545 and 1548, and the cholera epidemic of 1899 and 1923. Yang et al. (2020) suggested that the COVID-19 virus has its place in the order of nidovirales in the Coronaviridae family. This coronavirus family consists of four coronaviruses, named Alpha, Beta, Gamma and Delta, as described in previous literature. The Middle East Respiratory Syndrome and Extreme Acute Respiratory Syndrome of these coronaviruses, according to Shereen et al., (2020), while ARDS (acute respiratory distress syndrome) caused severe lung damage resulting in death. Stock market returns are responsive to these epidemics, pandemics, and other major global events. Ebola virus disease outbreak, severe acute respiratory syndrome, and other events including political (Shanaev & Ghimire, 2019; Bash & Alsaifi, 2019), news (Li, 2018), sports (Buhagiar et al., 2018), and environmental (Guo et al., 2020; Alsaifi et al., 2020) influence stock market returns as indicated in the earlier literature.

There are numerous studies in the recent literature that have examined the effects of this extraordinary outbreak on the behavior of financial markets (Corbert et al., 2020; Conlon and McGee, 2020; Sharif et al., 2020; Schoenfeld, 2020; Ramelli and Wanger, 2020). In a study on Bitcoin and COVID-19 in China and S&P 500, no significant correlation is found between Covid-19 and investments in Bitcoin (Corbert et al., 2020; Conlon and McGee, 2020). Another study found that while the impact of COVID-19 on oil prices in the US is negative, it has a significant impact on stock returns and political uncertainty (Sharif et al., 2020). Taken together, these studies suggest that the impact of this outbreak on the oil price, stock market behavior, economic policy uncertainty, emerging markets, and currency are significant (Topcu and Gulal, 2020; Narayan et al., 2020; Ramelli and Wanger, 2020; Schönfeld , 2020). However, there are no studies that have looked at the impact of COVID-19 confirmed cases and deaths on stock returns. The aim of this study is therefore to examine the impact of COVID-19 on stock market returns.

Fig. 1 summarizes the most important events in connection with the novel outbreak of the Chinese Wuhan Corona-Covid-19 virus. According to Sohrabi et al. (2020) is believed to be the main explanation for the recent COVID-19 outbreak in China related to maritime goods. This virus killed first person on January 11, 2020, in Wuhan in the Chinese province of Hubei. The Chinese government's preventive measures have greatly reduced the number of cases and deaths. The number of new cases fell to below 100 in early March.

Fig. 2 summarizes the main incidents related to the COVID-19 outbreak in Italy. On January 31, 2020, the EU member state was added to its list of countries affected by the coronavirus when the first two cases of the novel coronavirus were confirmed in two Chinese tourists. Italy is a popular travel destination. The first coronavirus death in Italy on February 21, 2020 has been confirmed by Pharmaceutical Technology (2020). Italy's outbreak outside of Asia after Wuhan is considered the world's largest with a total of 59,318 confirmed cases on March 23, 2020. Coronavirus in Italy grew from hundreds of thousands to thousands in 4 weeks from mid-February to March 10 (Pharmaceutical Science, 2020).

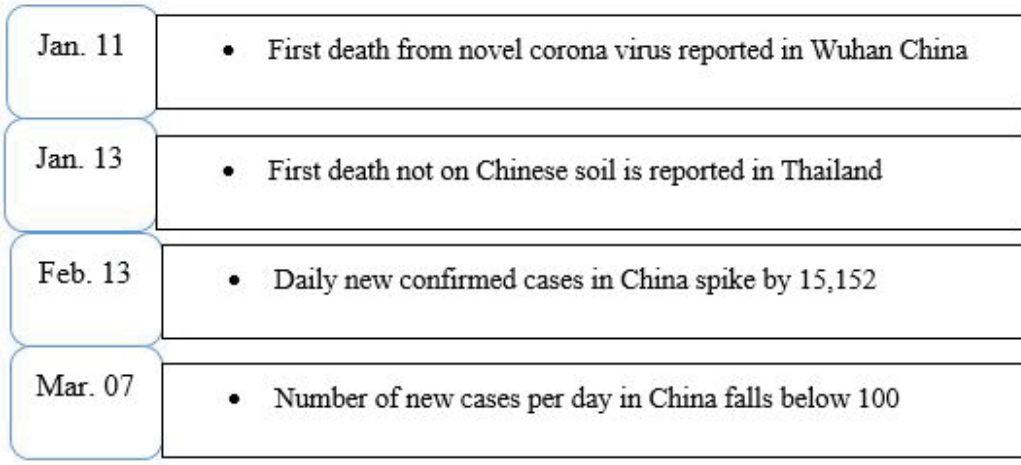

Figure 1: Key events of COVID-19 in China

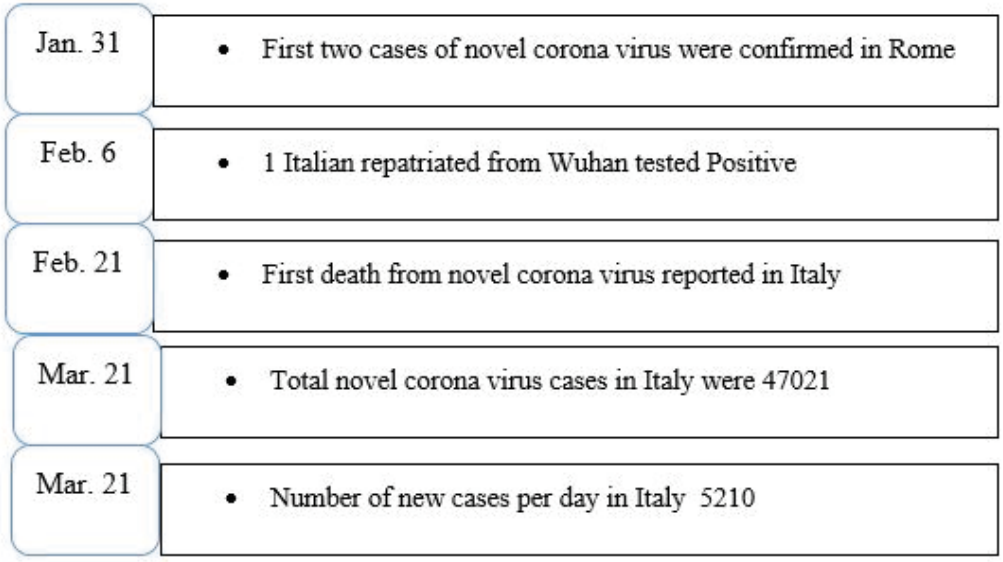

Figure 2: Key events of COVID-19 in Italy

Zach (2003) notes that significant events have a direct impact on stock returns. As the coronavirus (COVID-19) has increased and the index has decreased since 1998 (as of February 2020), it is the largest business in Italy. This is the worst day in stock market history, the index of the Italian stock market lost 16.92 percent on March 12, 2020. The same applies to China's Shanghai Composite Index, while the Composite Index of Shenzhen fell by 7.7% and 8.7%, respectively. The losses wiped out a total market value of $ 445 billion. The novelty of these study studies is to examine the unprecedented response to stock market returns from the infectious disease Covid-19. This outbreak began in Italy on January 31, 2020, with two confirmed cases. Details of the reported number of cases and reported deaths are posted daily by World Meter. This research uses a two-meter panel regression method to analyze the impact of the unprecedented Covid-19 infectious disease response and loss of capital stock. (1) The daily growth rate for all reported cases (2) the daily growth rate of all-cause mortality from this COVID-19 pandemic.- This study chooses China and Italy as the focus of this study as these two coun-

tries suffered badly at the start of this outbreak. At the time, most cases were reported from China and Italy, with Italy recording the most deaths. Hence, it is interesting to examine the impact of this breakout on equity market returns in China and Italy over this period. To the best of the author's knowledge, there is no other study that has examined this relationship. For this purpose, this study collected data from the FTSE (Milano Italia Borsa) and Shanghai Stock Exchange of the top 40 and 50 companies, respectively, for stock returns. The COVID-19 data (confirmed cases and deaths) is collected on daily basis by Worldometer. We find a significant negative association between COVID-19 and stock market returns in both China and Italy. This effect is more pronounced in Italy than in China.

This paper is divided into different parts as follows. Study methodology is covered in Section 2, while data and samples and conclusions are presented in Sections 3 and 4, respectively.

2. Data and Methodology

We used Daily data sets for this analysis covering the period from February 15th to March 2020. The data includes companies listed in the FTSE MIB (Milano Italia Borsa) Index, which is a global stock market index monitoring the performance of 40 leading and most liquid companies and companies listed in the Borsa Italiana & SSE 50 index (Shanghai stock exchange composite index) reflecting the top 50 companies by "float-adjusted" capitalization. Italian stock exchange ranks as the world's 108th stock market and has been a London stock exchange affiliate since 2007. The full summary of the data used in our analysis is set out in Table 1.

This research uses Static Panel data analysis, which is a highly efficient econometric method for Kao (1999) prediction. Three models (OLS pooled, Fixed and Random Effects) are available in the Panel Results. The Cluster Robust estimators are used in this analysis. Baltagi (2008) suggests that the FE model is a suitable

model in which to evaluate how the sample size focuses on a certain number of N companies (for example, where the sample contains all shares exchanged on a particular exchange). In addition, the FE model is used to evaluate the impacts over Baltagi (2008) of variables that differ in time. The Model of Fixed Effects is then used to evaluate stock output due to COVID-19.

Table 1: Description of the Sample

Country	Sample	Variables	Database	Period
Italy and China	FTSE MIB (40 Stock) SSE 50	• Daily Stock Returns(SR) • Daily Confirmed Cases(CC) • Total Daily Deaths(TDC) • Market Capitalization(MCAP) • Market to book ratio(MTB)	• Bloomberg • Worldometer	Feb 15 to March 30 2020

Sources: Author's own work

2.1 Model Specification

The stock return is estimated as follows:

Model 1 → $SR_{it}=\alpha_0 +\alpha_1 CC_{it} +\beta X_{it} +\varepsilon_{it}$ (1)

Model 2 → $SR_{it}=\alpha_0 +\alpha_1 TDC_{it} +\beta X_{it} +\varepsilon_{it}$ (2)

Where,

SR_it denotes daily stock returniat day t, regressed on the values of firm return predictors, which are CC_it daily confirmed cases and TDC_it dailydeath cases caused by COVID-19. X_it is a vector of firm-specific characteristics and ε_it is the error term.X_it Consists of natural logarithm of daily market capitalization (MCAP) and daily market-to-book ratio (MTB).

3. Result and Discussion

The pandemic originated in Asia, China and spread throughout the rest of the continent. The largest growing economy and product exporters in the world are China. China. A major outbreak was announced in Italy later in February. In Europe as well as part of China, Italy actually had the highest number of Covid-19 events. Italy has a fantastic tourist destination and is a member state of the European Union. Image. Fig. 3A and 3B show reported regular deaths in Italy and China from nCOV. The Chinese Covid-19 estimates that on 31 March 2020 81,554 cases were reached. Most confirmed deaths and deaths of death have been recorded across the whole continent in China.

Likewise, according to the information provided, on 23 March Italy's COVID-19 cases exceeded 59,138, marking the largest outbreak of Covid-19 outside Asia. Figures 2A and 2B show that the highest increase in confirmed cases is recorded in Italy and China. Italy is the world's second most infected country after China with a rate that is higher than any other nation (Duddu. P (MARCH 23, 2020).

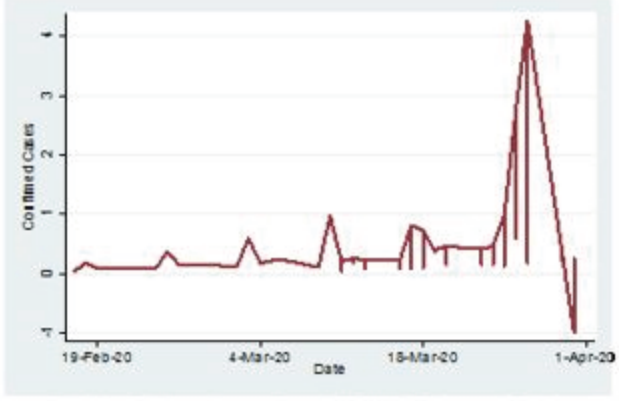

Fig 2A: Daily active confirmed COVID-19 cases in Italy

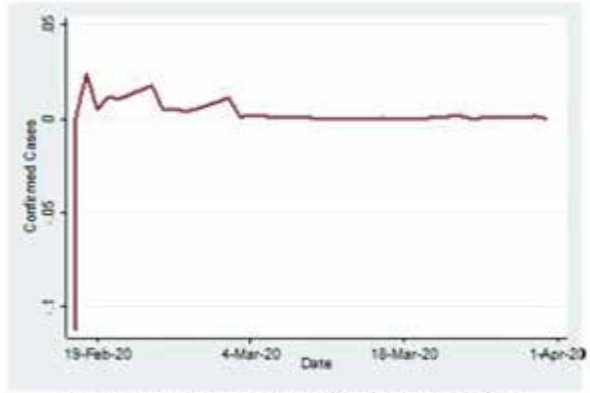

Fig 2B: Daily active confirmed COVID-19 cases in China

Fig. 3A and 3B show confirming cases in Italy and China every day for Covid-19. In fact, Wuhan was the epicenter of the pandemic in China, with 83% of all the cases and 95% of the deaths in February 21, according with the World Health Organization (WHO). In all 31 provinces of mainland China, between June and February, there was a COVID-19 outbreak. Similarly, in Italy 5,476 death cases, which rose sharply in March. On 21 March, almost 800 deaths in a single day were announced by the government.

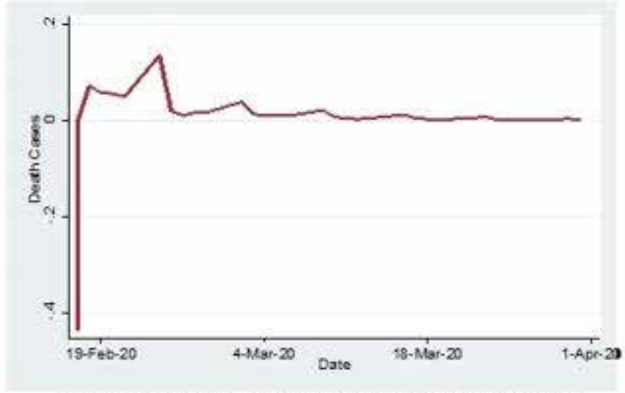

Fig 3B: Daily active confirmed cases of death due to COVID-19 in China

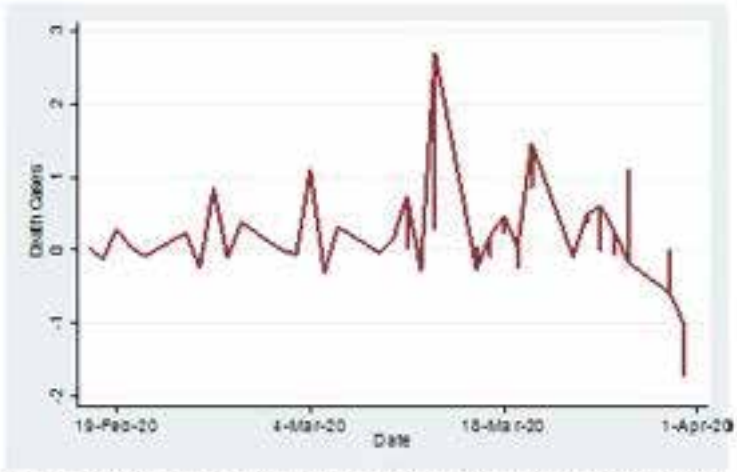

Fig 3A: Daily active confirmed cases of death due to COVID-19 in Italy.

Fig. 4A and 4B presents the daily stock returns of Italy and China included in our study. Due to outbreak the Stock Market is also affected.

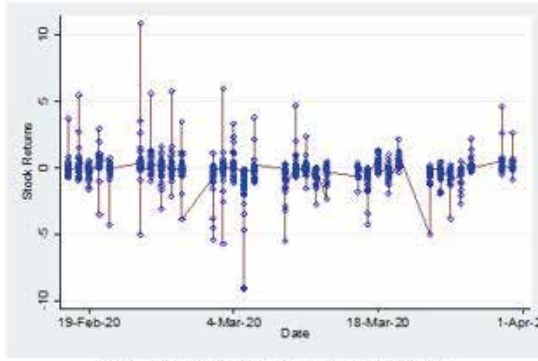

Fig 4A: Daily Stock Returns during Covid-19 in Italy

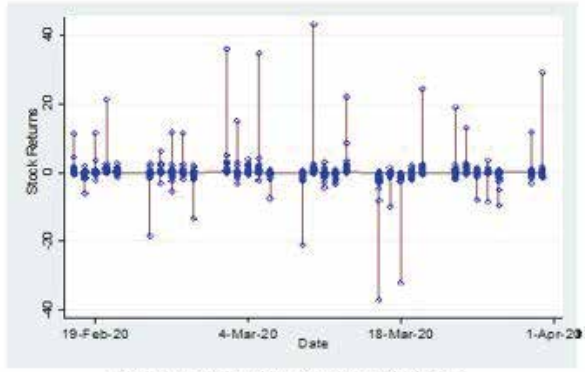

Fig 4B: Daily Stock Returns during Covid-19 in China

The figures indicated that the Stock Performance are negatively related to Confirmed Cases and Death Cases due to Covid-19 in Italy and China both.

3.1. Summary Statistics

Table 2 below also depicts descriptive analysis of Italian and Chinese details. Table 2A reveals that Italy's average daily stock return during the period is 10.9 and the minimum is -9.1. The highest increase in confirmed cases per day is 4.25, while in overall reported cases of death caused by COVID-19, the highest increase is 2.694. Likewise in Table 2B, the average daily stock return of China over the period is -36.98 and 43. The highest rise in total daily reported cases is .024and the highest increase in total daily deaths caused by COVID-19 is .136.

Table 2A: Descriptive Statistics of Italy

Variable	Obs	Mean	Std.Dev.	Min	Max
SR	1263	-.115	.998	-9.1	10.9
CC	1263	.472	.869	-1	4.25
TCD	1263	.257	.642	-.995	2.694
MCAP	1263	8.888	.931	6.931	11.375
MTB	1263	-.018	.201	-2.543	1.83

Sources: Stata Output

Table 2B: Descriptive Statistics of Chinese Market

Variable	Obs	Mean	Std.Dev.	Min	Max
SR	1600	.096	2.86	-36.98	43
CC	1600	.0003	.0206	-.112	.024
TDC	1600	.005	.083	-.436	.136
MCAP	1600	12.474	1.285	9.687	17.188
MTB	1600	10.119	295.878	-4003.898	4655.695

Sources: Stata Output

3.2. Correlation Matrix

The data correlation matrix is shown in Table 3. The tables show that daily stocks are negative with daily growth in total reported cases and with the regular growth

in total cases of COVID-19 deaths (Al-Awadhi et.al (2020). Due to Covid-19, stock performance in both countries has been negatively linked to the confirmed cases and death cases.

Table 3A: Matrix of correlations of Italian Market

Variables	(1)	(2)	(3)	(4)	(5)
(1) SR	1.000				
(2) CC	-0.053	1.000			
(3) TDC	-0.062	0.148	1.000		
(4) MCAP	0.016	0.053	0.032	1.000	
(5) MTB	0.668	-0.036	0.072	0.038	1.000

Sources: Stata Output

Table 3B: Matrix of correlations of Chinese Market

Variables	(1)	(2)	(3)	(4)	(5)
(1) SR	1.000				
(2) CC	-0.032	1.000			
(3) TDC	-0.036	0.986	1.000		
(4) MCAP	0.042	-0.003	-0.001	1.000	
(5) MTB	0.964	-0.013	-0.017	0.045	1.000

Sources: Stata Output

The findings of our panel data checks, Tables 4A and 4B, evaluated all the stocks found in the Italian stock market and in China during the COVID-19 outbreak. In total COVID-19 cases in Italy and China, the findings indicate a major negative association with the daily reported cases and the average tests. Investors are skeptical of investment opportunities and sell stocks in stock markets (Bai (2014) and Baker, Wurgler, and Yuan (2012) for communicable diseases.

Both the Models for Market Capitalization (MCAP) in Italy and China are substantially negative in terms of daily stock returns, as other factors influence the market value of companies: gross domestic product, currency levels, interest

rates, current account, and money supply. Because of outbreaks, the companies' net worth is also impaired so that the ties between MCAP and SR are adversely impaired (Ologunde, Elumilade and Asaolu (2006).

The book-to - market (MRB) ratio is significantly linked to Italy and China's daily stock return. The average growth prospects for MTB ratios are increasing. A high MTB ratio is usually predictive of a substantial potential income growth on the sector as a whole (Gottwald, 2012). The share price is affected during the outbreak, which means that MTB is linked positively to SR.

Table 4A: Static Panel Estimation of Italian Market

Dep Var: SR	(1)	(2)
VARIABLES	MODEL 1	MODEL 2
CC	-0.0428**	
	(0.0191)	
MCAP	-0.0533**	-0.0897*
	(0.0246)	(0.0504)
MTB	3.299**	3.068**
	(1.392)	(1.343)
TDC		-0.128**
		(0.0630)
Constant	0.440**	-0.837*
	(0.217)	(0.450)
Observations	1263	1263
R-squared	0.463	0.451
Number of Companies	40	40

Sources: Stata Output
Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 4B: Static Panel Estimation of Chinese Market

Dep Var: SR VARIABLES	(1) Model 1	(2) Model 2
CC	-2.538***	
	(0.751)	
MCAP	-2.525***	-2.548***
	(0.454)	(0.457)
MTB	0.00930***	0.00930***
	(9.08e-05)	(9.06e-05)
TDC		-0.709***
		(0.191)
Constant	-31.49***	-31.78***
	(5.661)	(5.695)
Observations	1,600	1,600
R-squared	0.931	0.931
Number of Companies	50	50

Sources: Stata Output

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

4. Conclusion

In the sense of COVID-19, it has been shown to have a negative impact on stock returns by examining both the stocks of the Italian stock market and the Chinese stock market. The findings are therefore considered to be negative. In the daily reported cases as well as in the daily cases of death caused by the virus, stock findings are significantly negative. The proliferation of the virus has caused worldwide panic and destroyed investor trust.

As consumers demand most important items in both countries due to lockdown, SMEs are engines for business in most countries worldwide. As the findings also show that market capitalization is negatively connected to stock returns, small businesses play a key role in crises in the economy.

Stock prices represent future sales; expenditure is concerned about future sales and the outbreak is perceived as damping economic activity. This study will

allow financial policymakers to evaluate the financial crisis in this COVID-19 pandemic. In this pandemic, lawmakers will help to assess the ever fall in the stock market. It will help them to quantify this catastrophe.

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An Overview of Corporate Governance in Africa

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ABSTRACT

This paper titled: "An overview of corporate governance in Africa" tries to address whether the African countries, which currently have a corporate governance code in place, have acknowledged their specific context and environment in developing their own corporate governance codes. According to many researchers, there are no universal laws in corporate governance and the efficiency of specific corporate governance practices can vary in different contexts. The researcher applied archival research techniques to analyze the national corporate governance codes of each country. This has enabled an analysis of multiple countries simultaneously and also a comparative analysis of older and newer codes of the same country. The findings conclude that African corporate governance codes have not merely been mimicked from their colonizer's code, but rather African countries have in their codes addressed issues which are relevant for their environment, such as strong communal values and corruption. However, the codes still have room for improvement in relation to minority rights protection and in the encouragement of institutional investor participation for example. The study found that those African countries which have a corporate governance code in place are on average less corrupt than the countries which do not have such code in place at the moment.

Keywords: Corporate governance, Agency theory, Corruption, Colonialism, Africa

1.1 Introduction

There is a growing consensus that corporate governance has a positive relationship with national growth and development of economy. The financial crisis and the following collapses of major institutions have brought more attention to the need for effective and good governance methods both in developed and in developing markets. This study aims to compare the differences and similarities between African countries' national corporate governance codes with European national codes.

The major part of the study is a comparative analysis between the various African country codes and their historical colonizing powers. The objective of this part of the study is to find out, how similar the codes are overall, and how much have the African countries mimicked their colonizers' examples. Also, and more importantly perhaps, do African codes have some characteristics that are contradictory to their colonizers and specific to their own environment? The codes are also evaluated both against their colonizers' codes but also with respect to how well the African countries' codes have been adopted to fit the emerging market environment compared to the developed market environment of their former colonizers. We shall also address, whether the countries religious or legal origin as well as mortality rate of the settlers are somehow visible in the investor rights protection and governance today.

For these reasons Africa is an important research subject, as we hope that with quality governance Africa could improve its reputation among investors, and through economic development improve the life of its population. Also for example former Unites States president Bill Clinton has recognized the investment potential of Nigeria, but declared that the government first needs to "put its house in order", if they want to reach their full investment potential (Okike, 2007).

1.2 Economy Characteristics

Many of the African countries have underdeveloped markets and financial institutions. However, there are some geographical differences in the development level, as some areas are more developed than others. For example, some countries, such as South Africa, Egypt and Nigeria are more developed and richer than the poorest countries, such as Congo, Liberia, and Eritrea (International Money Fund, 2014). Therefore, Africa as a whole cannot be characterised with one single market type. However, it cannot be denied that some of the poorest and most underdeveloped countries in the world are in Africa, and typically many of the countries have similar flaws and problems in their markets and community.

According to financial ratios, such as the liquid liabilities to GDP, countries is the Sub-Saharan region have significantly less developed markets compared to other emerging markets: in Sub-Saharan Africa the ratio was 29.7 % and for example in South Asia 55.1 % in 2007 (Allen, Carletti, Cull, Qian & Senbet, 2010). Therefore, Africa seems to be much behind other emerging markets in this regard, although some progress has been seen. However, the persistent view still is that much of the continent's markets have problems of corruption, and weak legal systems and regulation, and ineffective law enforcement (Munisi, Hermes & Randøy, 2014). Acemoglu et al. (2001) find that the reason for Africa's poverty, when compared to other markets, is not so much cultural or geographical, but is a result of worse institutions.

Therefore, relying on stock exchange regulation and focusing on issues that are only targeted at large companies is not the answer to the corporate governance problems in Africa on a larger scale. In free market systems, governments let markets themselves set prices through market supply and demand allocate resources most efficiently. However, governments intervene with markets if they do not work efficiently in these aspects, but governments may also intervene to promote their own agendas. One area that cannot be left unlooked in discussing African economy is corruption.

1.3 Corporate Governance Codes

The rules for corporate governance in different countries can be scattered in many different sources. Basic governance rules can be listed in statutory instruments, such as company laws, while more complex topics, such as takeover bids, can be referred in legislation or be promoted in listing requirements for stock exchanges. Companies can also have internal rules, for example, for board of directors that contain governance provisions, and informal traditions can also have an impact on governance. Corporate governance "codes" have been developed to coordinate these decentralized recommendations into consolidated governance codes. (Wymeersch, 2006). Thus, in markets, where the institutional setting might be failing to provide good-quality investor protection and rights, governance codes can be seen as a response to remedy these problems (Munisi et al., 2014). By complying with these codes, companies in such countries can signal investors that their governance equality is higher than the average country level would suggest otherwise. Here we shall describe the basic premise for corporate governance code development.

Governance policy systems can be divided into either hard law or soft law approaches (see for example Aguilera et al., 2008). Hard law systems refer to regulation, such as Sarbanes-Oxley Act, which regulates bindingly all of the companies that operate under its jurisdiction and defines the minimum standards for governance. However, the soft law approach is usually based on the comply-or-explain model.

However, although the comply-or-explain model should in theory ultimately lead to better governance by giving companies more discretion and flexibility over their own governance to make suit their environment, it seems to work better in fostering command compliance rather than in explaining noncompliance (Arcot et al., 2010). Arcot et al. suggest that the major problem with the approach is that the explanations for non-compliance are not sufficient, and companies frequently use standard explanations rather than profound and true reasons for not complying

with the codes. Also MacNeil and Li (2006) point out that investors are tolerating the non-compliance and vague explanations from the company, if the financial performance of the firm is sufficient. Therefore, it could be assumed that shareholder pressure is mainly targeted on compliance only, rather than explaining reasons for different practices. This could mean that shareholders do not truly understand and value the benefits of tailored and firm specific governance practices as much as they should. This is rather prejudiced, as high quality explanations for not complying with the corporate governance code are connected to higher corporate performance (Arcot & Bruno, 2006).

In addition to this, MacNeil and Li (2006) have criticized the comply-or-explain model for offering the shareholders a weaker role than the board of directors in governing the company, as they only get to review compliance ex post as opposed to the board. This appears ironic as the target of the codes is to reduce principal-agent problems. They argue that the comply-or-explain model does not really offer any better results than what could be achieved with default rules in company laws. Thus, although comply-or-explain model seems to be the prevalent and most distinguished approach on which to base corporate governance codes, it is not without its problems.

Market and Institutional Based Systems

The most common way to classify different corporate governance systems is to divide them between the market-based system (Anglo-Saxon) and the institutionally-based system (German) (Prowse, 1994). However, many of the governance systems around the world do not fit into either one of these perfectly, as there are many hybrid systems, and some of them have their own specific details. For example, Weimer and Pape (1999) have classified four different governance systems around the world, which are Anglo-Saxon, Germanic, and Latin countries, and Japan.

The market based system, or the Anglo-Saxon model, is characterized by widely

dispersed ownership, one-tier boards, less close relationships between shareholders and managers, and greater demand for market for corporate control (Rwegasira, 2000). In these markets, the principal-agent conflicts may arise and therefore much of the mechanisms are directed at aligning the interests of managers and shareholders. On the other hand, institutionally-based Germanic system suggests a close relation between large shareholders and managers as well as between managers and employees, recommends a two-tier board system which clearly separates management of the company and supervision, and is characterized by banks having high stakeholder influence (Weimer & Pape, 1999). Today most of German companies for example may be nominally owned by many shareholders but in reality are controlled by large banks via proxies (Morck & Steier, 2005). Generally, there is a weak market for corporate control, as large shareholders can control and monitor management through boards and other mechanisms by themselves. Also the two-tier board system, which is a major characteristic of German corporate governance, was developed and written into German Company Law already in 1870 (Morck & Steier). Performance based compensation policies have traditionally been more limited in Germanic countries than in Anglo-Saxon countries (Weimer & Pape, 1999), although there has been a rise in the performance based compensations also in Germanic countries.

It has been found that optimal governance differs between emerging and developed markets (Bebchuk & Hamdani, 2009), and even between emerging markets (Durnev & Fauver, 2007). Based on the corporate governance bundle idea, the context of the country and the specific context of an individual company determines what corporate governance mechanisms should be most suitable for that given environment and that company. Thus, no one universal law can be used to determine the best governance code.

1.4 Legal Protection of Investors

Many times corporate governance research has been done from the financing perspective, comparing bank financed systems, such as German system, to mar-

ket-based systems, such as that of United States (see for example Allen & Gale, 2000). However, this point of view does not work as well when trying to compare systems that are a combination of the two, as many countries at the moment are. This notion has generated different perspectives for looking into governance systems, and one of the most famous perspectives is the legal protection of investors in different markets. This means the protection of rights of both creditors and shareholders from expropriation conducted by both management and large shareholders. Expropriation can happen in a variety of ways: selling and buying assets to their own companies above or below market prices, overpaying management, targeted dividends, or even simply stealing the profits of the company. The legal protection refers both to the laws that are in place and to their enforcement in the country. (La Porta et al., 2000)

The extent of legal protection of investors varies greatly around the world, as in for example United States, Japan and in Western Europe the law protects the rights of investors relatively well, and courts are willing and able to enforce these laws. However, in most of the less developed markets, the legal system is too weak to offer true legal protection of investors (Shleifer & Vishny, 1997). This then affects also the governance level of companies in such countries, as for example Klapper and Love's (2004) find that the quality of governance is lower in countries with weak legal protection. However, good corporate governance through for example soft law codes could improve the protection of investors' rights even if the legal environment in general would not provide much protection.

Mechanisms for Protection

As Bebchuk and Hamdani (2009) suggest, the classification between controlling shareholders and diffused ownership can be used to develop governance methodologies for different companies. Here we shall discuss the possible violations of investor protection in both cases but mainly focusing on the concentrated ownership companies, as they are more relevant in the case of Africa. Shleifer and Vishny (1997) state that shareholder voting rights are violated more boldly in countries with low legal protection than elsewhere. For instance, management can

neglect to inform shareholders about annual meetings, and prevent shareholders with dissenting views from voting based on technicalities. In these situations, governance codes should address especially the ways in which minority shareholders can protect themselves against the expropriation of large shareholders. For example, superior voting rights and significant departures from the one-share-one-vote practice can enable large owners to abuse their power over other shareholders (Shleifer & Vishny). Through this kind of means, owners can for example use their power to pay themselves extra dividends or issue targeted share repurchases to benefit themselves. Also controlling shareholder can only elect those directors that run their own causes rather than those of all shareholders. As in Africa ownership concentration is common, the appropriation of large owners could be a significant problem, and therefore they should focus their corporate governance recommendations to address this issue.

Escaping Weak Legal Environment

La Porta et al. (1998) argue that the extent of investor rights' protection and the extent to which those laws are enforced, are the major determinants for corporate governance evolvement and development in a specific country. If the investor protection is therefore so important determinant for governance, what can companies do in countries with weak legal protection? First of all as the markets become more open, the importance of country characteristics, such as investor protection and legal enforcement, are reduced by financial globalisation (Doidge et al., 2007). Doidge et al. argue that if firms can access foreign capital markets, then they are less dependent upon national economic development and can shield themselves partly from weak national protection. Companies can avoid some of the disadvantages of their own country's governance if list their shares in foreign stock exchanges, and investors can file claims better on international courts if for example investor rights have been violated. Famous foreign stock exchanges have higher requirements for firm's governance, such as transparency and disclosure standards, than many national codes would require (especially in emerging markets) and thus companies can borrow the governance of more developed markets by listing in them.

Origin of Legal Protection

Why does investor protection then differ between countries? La Porta et al. (1998) state that the legal origin of a country explains partly the degree of investor protection, and common law countries have better investor right protection than civil law countries. Therefore, countries with Anglo-Saxon traditions or English colonies should have better investor rights, and thus also the former British colonies in Africa should have higher investor protection than for example French or German countries. However, the importance of country's legal origin in this issue is not entirely agreed upon. Stulz and Williamson (2003) argue that culture should not be ignored in this discussion. They argue that country's dominant religion predicts investor right's better than for example language, or even better than country's openness to international trade and the origin of its legal system. Also Bebchuk and Roe (1999) remind that corporate rules and regulations that will be chosen and persist over time in any country are dependent on the strength of relevant interest groups. Thus, although for example the religious base of a country might have changed over time, the same rules can persist anyhow, if there are strong enough authorities who are able to impede any changes on regulation that this kind of change could have caused in other markets.

1.5 Efficient Governance Practices

Africa has had much less attention in many research areas, including corporate governance. In this section we will present relevant research that has been done about the corporate governance particularly in Africa. Much of the research suggests that African countries have promoted corporate governance practices similar to those prevalent in developed countries (see for example Munisi et al., 2014), of which one example is the introduction of corporate governance codes.

The general view is that different corporate governance mechanism can be used as a substitute for each other (Munisi et al., 2014). Ownership concentration should theoretically be an efficient governance mechanism in many places in Africa,

where the access to global financial markets is difficult (Shleifer & Vishny, 1997), as large shareholders can monitor the management better than many scattered small shareholders could. However, Tsegba and Ezi-Herbert (2011) have found that ownership structures such as concentrated ownership or dominant shareholders do not have significant effect on firm performance in Nigeria, and therefore their use as corporate governance mechanisms to improve performance should be reconsidered. This ineffectiveness may be partly due to crony capitalism, and to large block holders who can extract rents the same way as managers might (Ayogu, 2001). Therefore, it is still possible that concentrated ownership and its mechanisms, when applied in markets with less corruption and with better minority shareholder protection, could be the answer to what governance practices should be adopted. However, the findings of Tsegba and Ezi-Herbert show that the effectiveness of concentrated ownership as a governance mechanism on performance is debatable, especially in corrupt markets.

If we take the view that in markets where external governance mechanisms and external financial markets are undeveloped companies should rely more on internal governance mechanisms, then particularly the board of directors and its characteristics become important governance mechanisms (Munisi et al., 2014). Generally larger boards are considered to be less effective in decision making, and increasing board size has been found to be negatively correlated with firm performance (Hermalin & Weisbach, 2001). Nonetheless, there have also been findings that would suggest that actually larger boards would enhance corporate performance and shareholder value in Ghana, Kenya, Nigeria and South Africa (Kyereboah-Coleman, 2007), and therefore at least in African context larger boards could actually be effective.

1.6 African Governance Codes

A specific characteristic that differs from Western cultures is the African value system called Ubuntu, which signifies a broad understanding of coexistence, consensus, and consultation (Rossouw, 2005). Mangaliso (2001) describes

Ubuntu as humanness, spirit of caring and community, and as responsiveness. As the basis for the value system of the culture is broader than it might be in some European countries traditionally, making only the interests of shareholders and accountability to them the objective of corporate governance should be impossible in Africa. Although still, it is possible that countries have followed, so to speak, too closely the example of their colonizers in understanding of whose interests' matter. However, at the moment as there is a constantly growing interest on corporate responsibility and accountability in developed markets too, we should not take for granted the general views on what and who matter in business in each market.

There is still a shortage of collective corporate governance code analysis on African countries. One of the few studies that refer to corporate governance codes or recommendations in Africa collectively is by G.J. Rossouw, whose research in 2005 examined different governance reports and codes of eleven African countries. Rossouw (2005) identifies general patterns in the institutionalization of corporate governance and describes how relationship between corporate governance and business ethics is understood. The role and responsibility of board is a major similarity in many of the African corporate governance recommendations.

One good example of a less successful development of corporate governance practices is from Nigeria, which has been described by Okike (2007). Mimicking the United Kingdom's Company's Act in Nigeria initially lead to the overlooking of Nigeria's peculiar social and political environment. While becoming independent Nigeria, like many other colonies, inherited many rules and regulations from their former colonizer Great Britain. During the colonial period Nigeria was introduced with the British company law and thus Nigeria's laws as well as corporate governance practices reflected the British system and practices.

After gaining independence, Nigeria had to replace their old British company law by their own in 1968. However, this law also mirrored the British Company Act of 1948 very closely, as many British people still controlled much of the business activities in the country. Therefore, in the case of Nigeria the development of

governance was highly exogenous. However, the corporate governance instructions of this act did not suit the environment of Nigeria, with tribal conflicts, corruption and rapid economic development. Although Great Britain has had its own corruption problems, they are mostly intangible and involve mainly marginal groups, and therefore the Company Act of United Kingdom do not address these issues enough to be appropriate and effective for Nigerian environment. Even strong governance codes and recommendations are not effective when supportive macro-economic and political and social institutions are not in place (Ahunwan, 2002), and therefore the recommendations of UK did not suit Nigeria.

Many of the studies related to corporate governance are focusing on the relationship between corporate governance and their effect on performance. However, Akinkoye and Olansamni (2014) have tried to inspect the level of compliance in Nigeria on their 2003 issued code of best practices in corporate governance.

1.7 Accounting and Corruption

Although major corporate governance literature is concerned about agency theory and reducing management expropriation, states, governments and public officials can also expropriate funds from companies through means of corruption. Transparency International (2004) has defined corruption as the abuse of entrusted power for private gain, and therefore we cannot limit the term only to concern public affairs. Corruption can be divided into public corruption (paying bribes to obtain goods that are monopolized by the government) and private-to-private corruption. Even in countries with relatively low levels of corruption, local corruption can feed the overall culture of corruption, which can in turn reinforce private and public corruption in the nation level (Dass, Nanda and Xiao, 2014). Therefore, the overall environment of the market can affect companies negatively, even though the companies would not submit to corruption themselves.

Most of the researchers agree that corruption is a burden to the economy as it distorts decision making and can lead to suboptimal allocation of resources, as less productive or efficient practices get resources while more efficient alterna-

tives will not (Shleifer & Vishny, 1993). The negative effects of corruption can easily multiply: it causes cynicism as people start to regard corruption as the norm of doing business and weakens social values as people find corruption as an easier path than legitimate transactions (Lawal, 2007). Besides the misallocation of resources, the secrecy of bribery also makes it costlier to the economy than tax payments, which can be viewed as a sister-concept for corruption (Shleifer & Vishny, 1993).

1.7.1 Governance in Corrupt Environments

There is not clear evidence on how accounting procedures, such as corporate governance, affect processes of corruption. It is evident that accountants often have a good possibility to observe and discover wrongdoings in organizations because of their close connection to organizations' control and auditing processes (Kimbro, 2011). Ideally therefore their role should be to prevent and discourage financial frauds and malpractices. However, Neu, Everett, Rahaman and Martinez (2013) suggest that accounting at the same time can limit but also enable and facilitate corruption, as a" skillful" use of accounting methods and social interactions together can enable corruption even in developed markets.

Therefore, one of the major problems for corporate governance in relation to corruption is, whether companies in more corrupt countries can overcome the problems caused by corruption with stronger governance. This question has not had a unanimous answer among researchers. If companies operate in an environment where bribes are expected of them to achieve or attract business and corruption would affect all companies (i.e. companies are victims), then investments in better governance would be unnecessary. However, if the companies themselves feed and participate in the culture of corruption by rent-seeking, earnings management etc. then stronger governance mechanisms become more important as companies can improve their image and signal their better quality to investors through governance and overcome some of the harmful effects of corruption (Dass et al. 2014). Stronger internal governance thus assures that the control as well as cash flow rights of investors are protected, even if the external governance would be weak.

1.7.2 Corruption

One of the major questions for corporate governance in relation to corruption is, whether companies in more corrupt countries can overcome the problems caused by corruption with stronger governance. Dass et al. (2014) argue that higher quality corporate governance would be especially important and valuable to companies which operate in areas with higher local corruption, and could help companies to overcome at least partly the corruption problems caused by weak institutions. However, for example Durnev and Fauver (2007) argue that the positive effect of higher quality governance is weaker or even non-existent in more predatory states where corruption is evident. An expected result is that countries with highest corruption levels do not have a corporate governance guideline at all in place at the moment in Africa. Our study findings, which show that both the mean and median of those African countries which have a corporate governance code are higher than of those African countries which do not currently have a code, thus support the argument that problems of corruption can be fought with stronger corporate governance. Also, as the mean and medians are approximately the same inside each group of countries, the statistics are not significantly skewed to either end of the index, therefore making this suggestion more plausible.

2.2 Theoretical Frame Work

The survey study of Shleifer and Vishny's (1997) approach corporate governance from the agency theory perspective. Agency theory certainly has been the major theory and basis for empirical literature to understand corporate governance (Aguilera, Filatotchev, Gospel & Jackson 2008). Therefore, much of the corporate governance literature and recommendations have focused on alleviating the possible principal-agent problems. Agency theory refers to the agency relationship between the principal, who delegates their work and power to the agent, who then performs the work on behalf of the principal (Eisenhardt, 1989). However, conflicts may arise when the desired goals of the principal and the agent are in conflict, and if the principal cannot check and make sure that the agent is working really in the interests of the principal. Agents can choose to hide information from

the principals, expropriate funds or make decisions that only benefit themselves at the expense of the principal (Lubatkin, Lane, Collin & Very, 2007). Therefore, principals want to invest in monitoring and alignment of agents' interests with their own with incentives, to protect themselves against the opportunistic behavior of the management (Lubatkin et al, 2007).

The agency theory is concerned about the principal-agent conflicts which may arise when there is enough of diffused ownership, and owners do not then have enough control over management directly. However, in markets with concentrated ownership the traditional agency problems may not be as severe, but instead principal-principal conflicts may arise as different owners have different interests and different levels of control and power over the company. This approach has become known as the principal-principal model of corporate governance (Young, Peng, Ahlstrom, Bruton & Jiang, 2008). Therefore, as we are focusing on a market where concentrated ownership is common, we shall take into account this principal-principal perspective when describing the problems and recommendations of African corporate governance.

2.3 Methodology

This study applied the use of archival research techniques in gathering information from different countries' policies and recommendations on corporate governance. Archival research refers to conducting a study using data that the researcher has not collected themselves, but the researcher selects the data to be analyzed from already available and existing data (Mc Burney & White, 2009 p. 228). The data that is already available is suitable for the objectives of this study, as the aim is not to find out if the companies are actually following the guidelines in practice, but to compare the already existing governance codes against each other.

As one of the advantages of the archival research is the possibility to revisit data multiple of times, we have been able to include issues that were initially thought to be self-evident or not as important for this research, but which appeared to be recommended differently in many codes, and thus, were finally included in this study.

2.4 Conclusions

The objective of this study has been to address whether corporate governance codes in Africa are adequate for African environment, and have the codes been adapted to fit their environment. Although the continent is not similar in every aspect, African context can in general be described with high amount of informal businesses, concentrated ownership, problems with weak legal institutions and high levels of corruption. All these issues have an effect on what kind of corporate governance mechanisms can be useful and effective. Therefore, following too closely the recommendations and guidelines of country's former colonizer might not be effective, as their codes are developed to fit their own context with more developed financial markets and stronger institutions.

Major finding for this research has been that African countries have rather followed the route of Anglo-Saxon corporate governance as opposed to the Germanic governance recommendations, even though the countries would have had both Germany and Great Britain as its colonizer. This can be especially seen with the unitary board recommendations over the dual board system. However, there is variation in the level of how much countries have mirrored especially other colonizers' codes as well, and the major similarities between colonizers with shareholder right recommendations in general. Also the performance related remuneration is a major similarity between the colonies and colonizers, although it might not be as effective mechanism in Africa as it can be in other markets. It seems that the corporate governance framework in Africa in relation to European colonizers is twofold: on one other hand African countries seem to be leading Europeans and encourage wider stakeholder inclusion, but on the other hand some countries seem to be lagging in especially independence guidelines.

Corruption is still a major issue for many a country in Africa, which makes the commitment to more ethical business behind the scenes harder. Corruption level of the country can be seen in some of the codes, as some highly corrupt countries do address problems of corruption more profoundly than other countries. This can also be seen in the updates of previous codes, as for example Nigeria has taken

into account specific problems and criticism directed at their previous code and improved their revised code to better fit with their context. Also, the colonizers' mortality rates are lower in those African countries which have issued a corporate governance code, implying that the institutional development has been higher in these countries, which has resulted in better developed corporate governance as well. Therefore, the researcher emphasizes the importance of colonial heritage in the development of corporate governance codes in Africa. However, our results show that countries have not merely mirrored their colonizers' codes directly, but rather the importance of the colonial heritage is more indirect through institutional development and colonization strategy.

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It's all about Relationship Management. Holistic View of working through Social and Business Development: Case of LABSERV Pakistan

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ABSTRACT

Relationships are always fruitful for business, especially in the case of specialty goods. This case study surrounds the company dealing in laboratory diagnostic and research products provided to health care institutions i.e., hospitals and related institutions. Hence to boost sales the major focus of the company is on relationship building. The reason for selecting the company from the diagnostic and research industry is to highlight the importance of marketing and related activities for companies having niche markets. The case has specifically to provide a legitimate level of understanding to academicians, researchers, and students. The data obtained has high relevance to literature and has also been verified through company performance in records. Hence the study is effective enough to be used as a tool to understand relationship management and its impact on the effectiveness & enhancement of a firm's performance.

Keywords: Relationship Marketing, Joint Ventures, Specialized Goods

INTRODUCTION

Pirzada, S, and Pirzada, W. confirmed that LABSERV brings the best quality laboratory diagnostic and research products to Pakistan from all over the

world. The reason behind this achievement is the experience of working with of US and Europe-based companies. Hence the experience is assisting LABSERV in performing holistically (personal communication, 2021). The company was founded in 1994 as a private business company by Mr. Shah Muhammad Pirzada and since then the company is pursuing its motto of helping researchers in the field of clinical diagnostic and life sciences.

The philosophy of the company is hybrid of technology-driven and customer-driven approaches. The company is also backed by the support of an effective R & D department along with a massive clientele which is evidence of the firm's capabilities to deal effectively with the demands of the market (labserv, n.d.). However, in 2009 company changes its focus towards imported research and diagnostic products and recently operated with branches located in the heart of Karachi, Islamabad & Lahore. However, the headquarter of the firm is in Karachi and its head office with clientele includes well-known hospitals, diagnostic labs & Universities, and HEIs. Some of the examples include Aga Khan University Hospital, South City Hospital, Liaquat National Hospital, Civil Hospital Dow University of Health and Sciences, Essa Lab, Sindh Lab, The Lab, Chughtai Lab, etc (labserv, n.d.)

BACKGROUND

The company is targeting the niche of the research and diagnostic sector with a major focus on the bio-medical category (agents) required for the conduction of delicate medical conducting tests on patients. However, focusing on a niche does not affect the purpose to serve the country, humanity, and profitability & all of this became possible due to a) Relationships with manufacturers based in UK and USA, etc, b) Effective relationships with their clientele and c) Joint venturing (relationship & partnership) with clients, advocates, and partners (Pirzada, S., Personal Communication, 2021).

Case Related Questions

Generic Questions

1. Why relationship management is critical in the context of marketing?
2. How Relationship Management leads to a company's growth & success?
3. What is the significance of relationship management in the business of specialized products?

Case Related Questions

1. How LABSERV has benefited through relationship management?
2. What LABSERV must do to continue an effective stream of relationship management?
3. How relationship management is providing a competitive edge to LABSERV?
4. How LABSERV is using its abilities of relationship management for long-term management?

Conceptual Questions

1. How do companies operating in market niche segments must devise their USPs and DSPs?
2. How do companies in niche market segments manage threats from direct and indirect competitors?
3. What are the main sources behind the success of the companies operating in niche or specialized goods markets?

Specific Issues in Business of Specialized Products

LASBSERV is working in Pakistan since 1994 but the reward of the authorized international dealers from any of the International firms was the result of fifteen years of continuous and thorough efforts for serving Pakistan and humanity

(Pirzada, W., Personal Communication, 2020). Through this one can understand how difficult is to manage cross-cultural relations in a business environment. However, management of cross-cultural relations is not the only issue of importance in the category, especially in laboratory diagnostic and research products. The other challenges pertaining to the niche of laboratory diagnostic and research products are: (Pirzada, S., Personal Communication, 2021).

a) Tracking sales team during office hours
b) Proper recording and invoicing for each client, especially at the time of closing
c) Pricing of diagnostic and research products from the USA and UK

Formulation of Case and Its Significance

The case has been written specifically with an intense focus on relationship management pertaining to the business of laboratory diagnostic and research products. The purpose of specificity is to reflect the importance of relationship management for the niche (Rahab, Ann & Samuel, 2022).

On the other side, there is also a lacking of research work related to this particular field. Especially with reference to Pakistan, and most of the studies were related to the banking industry (Malik & Wood-Harper, 2009 & Ullah, Ahmed & Hashmi, 2013), telecom industry (Tauni et al., 2014) & Fast-Food Industry (Anees et al., 2020). However, the lacking studies related to laboratory diagnostic and research products creates a legitimate need to conduct studies that may reflect findings specifically to the niche or laboratory diagnostic and research products industry. Similar has been indicated by Rashid et al (2019) that qualitative case studies are an effective tool to explore the phenomena. Hence the study would be immensely beneficial for researchers, academicians, and students in order to improve their understanding associated with relationship management for niche market segments as well as to conduct thorough research work.

Specific Issues related to Relationship Management

Some important relationship management issues for businesses dealing with specialized products like LABSERV are as under. Readers might optimize their level of understanding through a unique blend of literature and implication provided in this case.

a) Relationship with (Suppliers) Producers of Clinical Diagnostic & Research Products

Pirzada, W. indicated that there are two major aims of the company that is to strive for the latest information in the field of research and to match the requirements of the clientele. Therefore, the maintenance of effective relationships with suppliers is one of the prime areas of interest. Though this is not easy and we have spent a number of years in performing business venturing with our suppliers in USA and UK (Personal Communication, 2021). Similar sort of findings is reflected through research literature that the development of cross-cultural relationship is difficult but an essential component for the progress of the business. Initially highlighted by Willaimson (1985) that the development of closed inter-firm relationships provides numerous benefits e.g., cost reduction and investment in new forms of exchange (Dorsh, Swanson & Lelley, 1988).

Studies also indicated that long-term and continuous relationships with existing business partners are more beneficial rather than finding new partners.

Thus, it is significant for companies to focus on maintaining long-term relationships with the existing business partners. These forms of partnerships will results in a decrease in buying costs, a diminishing in uncertainty, an increase in the security level of investments, and an enhancement in the utilization of resources (Jahre, 2006; Kumar et al., 1992 & Pfeffer & Salancik, 1978). Similar indications were made by Director LABSERV that “Maintenance of cross-cultural relationships is a difficult & also needs a lot of time and patience because of cross-cultural

norms and beliefs. However, after the development of these strategic relations company might experience long-term growth in sales and profit coupled with an increase in goodwill and reputation in the industry" (Personal Communication, 2021).

Sayings have also their roots in the literature that the development of relationships requires adaptability from both of the companies i.e. suppliers and the extent of adaptation will be based upon the characteristics possessed by the parties involved in the process of interaction (Hagberg-Anderson, 2006).

Similar has been highlighted by the research another study by Hakkanson and Snehota (1995) supported the sayings of Mr. Pirzada and indicated that in order to foster relationship companies always tends to be adaptive to each other. Pfeffer and Salancik, (1978) indicated that conducting business across cultures is associated with understanding and adaptation to cultural differences and a company need to adapt to these challenge through adaptation of norms and behaviors of the national culture of other parties (Hall & Hall, 1987 & Kale & Barnes, 1992)

b) Relationship with client base (Customers)

Director LABSERV Mr. Pirzada highlighted that "Good relationships are one of the most important tools to boost sales, maintain the flow of business and serve humanity in a better way. The strategy is also significant for the effective maintenance of the company's clientele all over Pakistan.

Relationship management with clients aids company in getting first hand and latest knowledge regarding clients as well as markets that will be reflected positively upon the flow of business and sales company". These points reflected by Director LABSERV are consistent with Dwyer, Schurr, and Oh (1987) & Palmatier Dant Grewal and Evans (2006) as literature also suggested that relationship marketing is treated as one of the most important developments in the field of marketing. However, relationship marketing is suited best for a company's offer-

ings that are specialized in nature with a limited number of buyers (Pindyck & Rubenfeld, 2001)

c) Joint Venturing with Complementary Businesses

Director, LABSERV, Pirzada indicated that "We don't have any direct competitor in the niche segment of the market. However, some of the indirect competitors and Chinese products are hindering our way towards glory. Thus the company is also pursuing relationships with firms that may complement our business". Sayings are also evidenced through literature that companies operating in a niche market segment have lesser competition supplemented with effective management of entry barriers (Cuthbert, 2011).

Director, LABSERV further pointed out the relationship with other businesses and emphasized the importance of joint ventures in the category of niche segments of the business. He said, "In fact, one of the leading partners is Scientific Supplies which has been associated with us for several years, and by working together we are serving humanity in a better way". Similar has been evident from the literature that joint venture is one of the leading strategies for corporate for a long period of time (Contractor, 1985 & Harrigon, 1988). A study by McConnel and Nantell (1985) also believes that joint ventures are one of the prime sources of value creation and developing joint ventures may also reflect positively upon the effectiveness of joint ventures. In fact, vertical and horizontal alliances are significant for the growth of business in niche market segments. However, special emphasis is on horizontal alliance which in combination with vertical alliance resulted in better market research and matching effectively with the demands of the end customers (Cuthbert, 2011).

METHODOLOGY

The philosophical Approach used for the compilation of this study is Epistemology and the philosophical stance related to the compilation is interpretivism. The

approach used for the study is deductive, the research strategy is a case study & time horizon is cross-sectional as indicated by Saunders et al (2015). Data were collected from the two most important people i.e. CEO and the Director of LAB-SERV through purposive sampling (Rai & Thapa, 2015) & semi-structured interviews (Diefenbach, 2009). However, for the purpose of verification, validation, and ratification the collected data has also been cross verified through the company's records, ledgers, and audit reports. Moreover in order to check the validity of the data employed we cross-checked the observations.

CONCLUSION

Semi-Structured interviews with the CEO and Director of LABSERV indicated that relationship management is one of the most important tools for the success of specialty goods. In fact, for the industry of research and diagnostic, the strategy has profound impacts on the company and its growth. However, there are some other challenges that are associated with the business of research and diagnostic product although relationship management is the strategy for major breakthroughs. In fact, the case of LABSERV is significantly related to the indications of Shani and Chalasani (1992) of that relationship marketing is significantly important for companies dealing in niche segments. Strategy is not only effective for collecting firsthand information from clients in order to adjust predominantly to market needs but also fruitful for making defense against the attacks by competitors. Similar was the gist of the conversation with the CEO and Director of LABSERV. Hence in light of this evidence, it is legitimate to believe that the role of relationship marketing in the niche category of business is significant and LABSERV is using the strategy in the right way to earn the glory.

DISCUSSIONS AND MANAGERIAL IMPLICATIONS

The findings of the case study are completely aligned with the game theory that has two primitives i.e. form and strategy. However, the major association of the case is with the second primitive i.e. strategy that is perceived as the comprehen-

sive explanation of the player's actions in the game from the start to the end (Rahab et al., 2022).

CEO & Director of LABSERV agreed upon the point that Relationship marketing is a significant way of attaining opportunities and avoiding threats in niche markets. These points are consistent with the analysis of Chakiso (2015), that goodwill of the company has been severely affected by the conflict that remains unresolved. The study also indicated that conflict management might be a useful tactic to influence customer loyalty. Similar were the indications of CEO & Director LABSERV that indicated that relationship management is not only limited to customers but also with vendors (suppliers) and other business partners. Managing relationships in a holistic way will be fruitful for resolving conflicts and thus able to cope up with the needs of the markets as indicated by indications by Shani and Chalasani (1992).

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Impact of Financial Literacy of House Hold Females on the Use of Fintech: Testing the Relation with Unified Theory of Acceptance & Use of Technology (UTAUT) Model

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ABSTRACT

The era of COVID-19 resulted in contactless transactions and extensive use of technological applications. Similar was the case of Fin-Tech which has been extensively used by consumers all around the globe for making transactions and other financial and economic needs. Although these form of studies are rare from developing as well as Asian sides of the globe. On the other side, there are some studies that indicated the UTAUT model as the base to prefer mobile methods of transaction and Fin-Tech use. Hence this paper has been developed systematically to relate the financial literacy of household females from generation Y with the use of Fin-Tech during the eve of COVID-19. For devising this relationship research has been induced with the UTAUT model and data has been collected from married household females between twenty-four to thirty-five years of age. Results were analyzed through SMART-PLS which highlighted that the financial literacy of household females has a significant association with the UTAUT model. However, the entire UTAUT model does not have a significant relationship with the use of Fin-Tech.

Key Words: Fin-Tech, COVID-19, Household Females, UTAUT Model &

Financial Literacy

INTRODUCTION

In recent times technology became an integral part of the financial sphere. In fact, there is a well-known notion to highlight e linkage between finance and technology named "Fin-Tech" (Vasenska et al., 2021). Fin-tech can simply be defined as the innovation based on the integration of finance and technology to provide liberty to consumers to access new products, markets, models, and applications. This will not only result in the formulation of the financial industry but also foster competition among elements of the industry (Daragmeh, Lentner & Sagi, 2021).
Technically explaining the purpose of Fin-Tech is to propose technological solutions that may lead to a new business model in order to real-world problems. Thus, the sector is progressing at a fast pace although the revolution started in the twentieth century with the launch of the automatic teller machine (ATM) by Barclay's Bank (Vasenska et al., 2021). However, in recent times outbreak of COVID-19 resulted in tremendous growth in the Fin-Tech sector as people seem reluctant to conduct physical transactions and face-to-face interactions (Daragmeh, Lentner & Sagi, 2021). However, there are few studies that examine the impact of an outbreak of COVID-19 on increased use of Fin-Tech e.g. Benni (2021); Daragmeh Lentner and Sagi, (2021); Fu and Mishra (2020) and Hill (2021), etc. However, most of the studies in this vein are from European sides of the world or not from specific genders as well as in Asia. Hence the purpose of this paper is to uncover the impact of COVID-19 on the use of Fin-Tech in Pakistan.

STATEMENT OF PROBLEM

There are several studies that relate theories like the Technology Acceptance Model (TAM), the United Theory of Acceptance and use of technology (UTAUT), Technological Readiness, etc with the adoption of Fin-Tech (Setiawan et al., 2021). However, for the adoption of Fin-Tech, there is also a need for financial literacy, as financial literacy is the prime tool that makes the user comfortable with

innovative products (Morgan & Trinh, 2020). On the other side research from developed sides of the world failed to report a higher level of financial literacy (Morgan & Trinh, 2019). In fact, researchers are unaware of any study which relate financial literacy to the use of financial technology (Morgan & Trinh, 2019). Therefore, there is a need to explore the relationship between financial literacy and the use of financial technology. However, previous studies also indicated that the adoption of Fin-Tech was actually caused due to the technological orientation (Setiawan et al., 2021). Therefore the twofold purpose of this study is also to explore the base of the relationship that either it is based on financial literacy or based on technological orientation.

THEORETICAL FRAMEWORK

One of the initial studies conducted by Samartin (2003) indicated that it might be men who mostly take financial household decisions. Although it is not clear and definitely there is a gap of understanding with respect to gender and their ability to take financial decisions.

This postulate has been supported by Khan et al (2020) that generations and sex have a key impact on the rate of technological adoption. On the other side previous studies e.g., Laywilla et al (2020) highlighted the Unified Theory of Acceptance and use of technology (UTAUT) as the source to use Fin-Tech applications. Similar has been indicated by Bao and Huang (2021) and Vasenska et al (2021).

However, studies like Fu and Mishra (2020) indicated the global relationship between the COVID-19 pandemic on the adoption of Fin-Tech; therefore this study uses COVID-19 as the major predictor for the adoption of Fin-Tech during COVID-19 with serial mediation of the UTAT model. Moreover, the study uses Generation Y to gauge the impact of the COVID-19 pandemic on the adoption of Fin-Tech as Generation-Y was found to have more technological orientation, even in comparison to generation-Z (Khan et al., 2020). On the other side study of Laywilla et al (2020), explores the linkage of UTAUT Theory as the source of adop-

tion of e-wallets from females in Jakarta. Results indicated that female perceives that the use of e-wallet will make purchase easier. The study was carried out during COVID-19; therefore it is not vague to perceive that one of the reasons to use e-wallets was COVID-19. Therefore, this study takes the reference of household wives (Hardini & Bahtiar, 2020) for measuring the impact of financial literacy on the use of Fin-Tech during COVID-19. However to gauge financial literacy research work capitalizes only on the initial parameter as the parameter (Financial Literacy) found on the lower side even in developed countries (Morgan & Trinh, 2019).

LITERATURE REVIEW

The middle of the twentieth century was the era when we start observing the association of information technology with financial services. The initial step was taken by Barclays through the introduction of an automated teller machine (Vasenska et al., 2021). On the other side, there is well-developed literature to relate financial literacy and various financial & economic behaviors. Through research, the focus was significantly increased due to the economic downturn of 2008-2009 which resulted in several scams and scandals associated with borrowings and investment activities (Morgan & Trinh, 2020). Similar is the case of the outbreak of COVID-19 which also resulted in an economic downturn (Valaskova, Durana & Adamko, 2021).

Thus, also enforces severe investigation towards the use of Fin-Tech e.g. Benni (2021); Fu and Mishra (2020) and Hill (2021), etc. A study by Fu and Mishra (2020) indicated severe download of financial applications by consumers all over the globe. However, according to the study, traditional banks gain more value as compared to well-known Fin-Tech firms. Similar has been indicated by Hill (2021) and Benni (2021), i.e. pandemic causes a consumer shift towards and the massive shift has been observed in form of consumer preference towards mobile and digital forms of money transfer. Though some findings by Hill (2021) are different from Fu and Mishra (2020) as the study indicated that banks in the US

tied the knot with Fin-Tech firms to survive the downturn. However, an increase in the rate of development of Fin-Tech also raises the requirement of an increase in consumer knowledge to deal with more sophisticated levels of technology as well as products (Morgan & Trinh, 2020).

Although Generation Y found to be more inclined towards the use of technology as compared to generation Z (Khan et al., 2020), studies were failed to provide surety regarding more inclination of any particular gender towards the technology (Samartin, 2003). However, recent studies highlighted gender orientation as the significant predictor of technological inclination (Khan et al., 2020). Linking the literature with the implication of the UTAUT model it has been reflected that performance expectancy is a significant predictor of using technological applications for mobile payments (Latha & Vatchala, 2019). Similar has been reflected by the survey of Al-Saedi et al (2020), while the other study by Dmitrii (2018) indicated that effort expectancy is the prevalent predictor of the use of mobile wallets.

RESEARCH METHODOLOGY

Research Design

The paper uses epistemology as the research philosophy as the purpose of the study is to relate the financial literacy of household females with the use of Fin-Tech. These sorts of studies were previously conducted in developed & western countries (e.g. Morgan & Trinh, 2019), similarly there are also some studies that explore the linkage of UTAUT theory with the use of Fin-Tech e.g. Laywilla et al (2020). However, the linkage was rarely tested not only in the eastern and under-developed world but also for the linkage of financial literacy with the UTAUT model and its associations with the use of Fin-Tech.

Therefore in consideration with Saunders et al (2007), the philosophy of research is epistemology as the purpose of the study to devise the theoretical linkage as well as to optimize research work with reference to under-developed and eastern sides of the world. However, various parts of the research model were previously

through a quantitative approach i.e. Khan et al (2020) and Setiawan et al (2021), and therefore the philosophical stance associated with the study is post-positivism (Žukauskas, Vveinhardt & Andriukaitiene, 2018). Research work uses philosophical stances in order to incorporate indications of Saunders et al (2007) and Žukauskas et al (2018). The study uses a deductive approach and the time horizon for the study was cross-sectional (Saunders et al., 2007 & Saunders et al., 2009).

Sampling Design

The sampling design followed Prasad et al (2018) which was based on convenience sampling to collect information about digital financial literacy in India. However, the study was descriptive and no inferential outcomes were carried out. Therefore, in order to conduct the study effectively, researchers take the reference of Hardini and Bahtiar (2020) in order to collect data from housewives during the days of the pandemic. However, the sample used by Hardini and Bahtiar (2020) was only of hundred respondents which might not be sufficient to justify results when the aim of the study is to link financial literacy with UTAUT and then to use of Fin-Tech in the days amid COVID-19. Hence this study takes the reference of Goodhue et al. (2012) and Hair et al. (2011) to use the 10-10 rule. After calculating the number of arrows pointing towards each indicator the sample size for the study is three hundred.

Questionnaire

Research Instrument is a hybrid of different studies like Huston (2010), Setiawan et al (2021), and Suliyanto (2017) for financial literacy, Khan et al (2020) and Setiawan (2021) is used to reflect the use of technology and use of Fin-Tech. However, the instrument has been based on the Likert scale in order to comply with Hassan et al (2021) and to avoid delay in data collection the questionnaire has been circulated physically as well as through online mode. Initially, 400 questionnaires were distributed through the number of questionnaires received were 15% less than the number of questionnaires circulated i.e. 340.

Therefore the response rate was 85% but among 340 received questionnaires 22 were not adequately filled and 18 questionnaires were rejected in the process of data cleaning. Therefore this study has been based on 300 responses received from household wives on the topic of financial literacy and its linkage with the use of Fin-Tech.

Software and Statistical Technique

Hardini and Bahtiar (2020), use regression in order to determine results based on the financial literacy of household females amid COVID-19. Similarly, the correlation was used by Prasad et al (2018), and therefore applying SMART-PLS in order to incorporate structural equation modeling in this study is adequate enough to be applied. Similar has been reflected by Wong (2013) that SMART-PLS is one of the most effective software when researchers have lesser knowledge regarding the theory and it is also the best alternative to CB-based SEM. Hence, the use of CB-Based SEM by Hasan et al (2020) might effectively be replaced by PLS-Based SEM.

STATISTICAL TESTING AND ANALYSIS

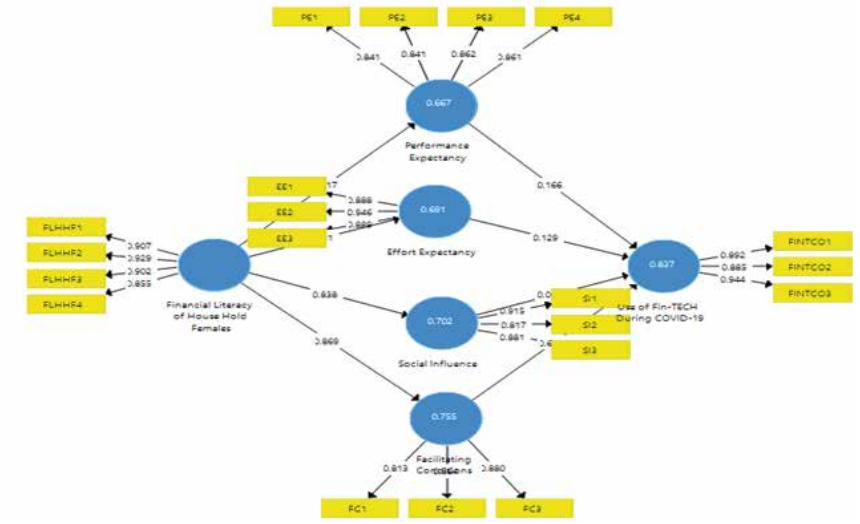


Figure 1: Outer Loadings and Confirmatory Factor Analysis (CFA)

Through figure 1 it has been highlighted that all the outer loading for the elements is more than 0.708 which is the benchmark criteria for the qualification of elements in descriptive statistics (Hair Jr. et al., 2021). Although one may also be allowed to retain elements having outer loading of 0.5 or above (Afthanorhan, 2013), hence all the elements are adequate enough to be retained in the analysis

R Square

	R Square	R Square Adjusted
Effort Expectancy	0.691	0.688
Facilitating Conditions	0.755	0.753
Performance Expectancy	0.667	0.665
Social Influence	0.702	0.700
Use of Fin-TECH During COVID-19	0.837	0.832

Table 1: R^2 (Quality Criteria, i.e. Predictive Accuracy)

Table 1 is indicating that the values of coefficient of determination (R-Square) as to satisfactory for all the cases as the values are higher than the minimum benchmark of 0.25 and also the moderate value of 0.5. In fact, for some cases, the value of the coefficient of determination is more than the substantial benchmark for the criteria (Hair Jr. et al., 2017). Therefore in the light of these parameters the model is adequate enough to be tested as the change in the predictor (IV) is resulting in a significant change in the DVs.

Construct Reliability and Validity

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
Effort Expectancy	**0.893**	**0.898**	**0.934**	**0.825**
Facilitating Conditions	**0.813**	**0.819**	**0.889**	**0.728**
Financial Literacy of House Hold Females	**0.920**	**0.921**	**0.944**	**0.808**
Performance Expectancy	**0.874**	**0.876**	**0.913**	**0.725**
Social Influence	**0.841**	**0.849**	**0.905**	**0.760**
Use of Fin-TECH During COVID-19	**0.893**	**0.898**	**0.933**	**0.823**

Table 2: Construct Reliability & Convergent Validity

Table 2 is used to reflect construct reliability, composite reliability, and convergent validity. The table includes three (3) reliability measures i.e. Cronbach's Alpha (α), Goldstein rho & composite reliability.

However, according to Nunnally (1994) the values of Cronbach's Alpha and Composite Reliability must be greater than 0.7, and Goldstein rho is also termed a better reliability evaluator than Cronbach's Alpha (Ravand & Baghaei, 2016). Therefore in association with these criteria table is sufficiently fulfilling the requirements of internal reliability (α), construct reliability, and composite reliability. However, the table is also effective in reflecting convergent validity through composite reliability and AVE as these two in addition to outer loadings are the main criteria for assessing convergent validity (Ab Hamid, Sami & Sidek, 2017). Although, AVE with a value of 0.5 or above might alone be a potent predictor of convergent validity (Benitez et al., 2020). Thus on the bases of this criterion table is sufficient in reflecting internal reliability, construct reliability, composite reliability, and convergent validity.

Discriminant Validity

	Effort Expectancy	Facilitating Conditions	Financial Literacy of House Hold Females	Performance Expectancy	Social Influence	Use of Fin-TECH During COVID-19
Effort Expectancy						
Facilitating Conditions	**0.593**					
Financial Literacy of House Hold Females	**0.490**	**0.663**				
Performance Expectancy	**0.451**	**0.691**	**0.797**			
Social Influence	**0.680**	**0.783**	**0.774**	**0.675**		
Use of Fin-TECH During COVID-19	**0.774**	**0.450**	**0.598**	**0.584**	**0.581**	

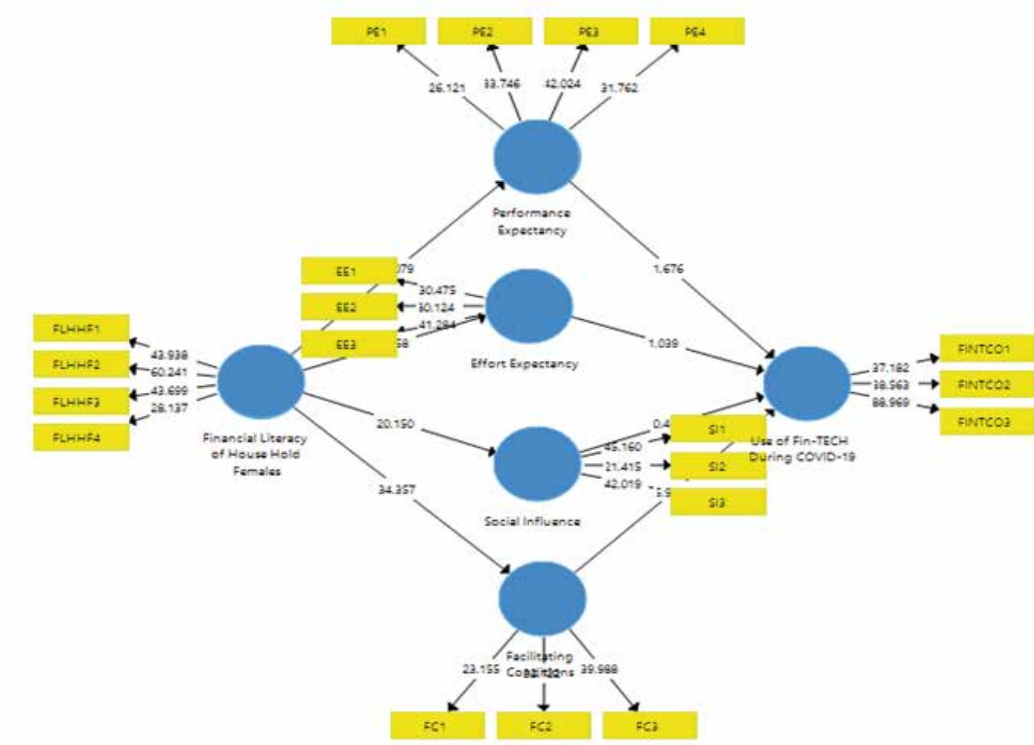
Table 3: Discriminant Validity

Table 3 is indicating discriminant validity through Heterotrait-Monotrait Ratio and the ratio is perceived as the best tool to highlight discriminant validity (Benitez, et al., 2020). Moreover, according to the table, the maximum value is 0.797 which is lesser than the 0.85 i.e. threshold criteria of discriminant validity through the Heterotrait-Monotrait ratio (Hair Jr. et al., 2017b). Therefore, legitimate to

declare that table is sufficient enough to reflect the discriminant validity through Heterotrait-Monotrait Ratio.

Table 4 is indicating the path coefficient which has a range of -1 to +1. Vale of -1 is to indicate a negative relationship and +1 is to indicate a positive relationship, while 0 indicates no relationship (Mirza, Sandhu & Ameen, 2020).

The table also includes t-values and p-values to induce the relationship as indicated by Kock and Hadaya (2018) that the p-value must be lesser than or equal to 0.05 and the t-value must be greater than or equal to 1.97 (Durate & Amaro 2018). Therefore through these criterion three variables (components), associated with the UTAUT model including effort expectancy, performance expectancy, and social influence does not have an impact on the use of Fin-Tech during COVID-19. However, the financial literacy of household females has a positive relationship with all the components of the UTAUT model.



Mean, STDEV, T-Values and P-Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Effort Expectancy -> Use of Fin-TECH During COVID-19	0.129	0.146	0.124	1.039	**0.299**
Facilitating Conditions -> Use of Fin-TECH During COVID-19	0.608	0.611	0.102	5.984	**0.000**
Financial Literacy of House Hold Females -> Effort Expectancy	0.831	0.828	0.044	19.058	**0.000**
Financial Literacy of House Hold Females -> Facilitating Conditions	0.869	0.866	0.025	34.357	**0.000**
Financial Literacy of House Hold Females -> Performance Expectancy	0.817	0.813	0.041	20.079	**0.000**
Financial Literacy of House Hold Females -> Social Influence	0.838	0.837	0.042	20.150	**0.000**
Performance Expectancy -> Use of Fin-TECH During COVID-19	0.166	0.169	0.099	1.676	**0.094**
Social Influence -> Use of Fin-TECH During COVID-19	0.064	0.042	0.146	0.437	**0.662**

Table 4: Boot Strapping **(**Path Analysis, t-vales & p-values)

Specific Indirect Effects

Mean, STDEV, T-Values, P-Values

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Financial Literacy of House Hold Females -> Effort Expectancy -> Use of Fin-TECH During COVID-19	0.107	0.119	0.102	1.049	**0.295**
Financial Literacy of House Hold Females -> Facilitating Conditions -> Use of Fin-TECH During COVID-19	0.528	0.529	0.089	5.908	**0.000**
Financial Literacy of House Hold Females -> Performance Expectancy -> Use of Fin-TECH During COVID-19	0.135	0.137	0.081	1.678	**0.094**
Financial Literacy of House Hold Females -> Social Influence -> Use of Fin-TECH During COVID-19	0.053	0.033	0.123	0.434	**0.665**

Table 5: Specific Indirect Effect

Table 5 is used to indicate a specific indirect relationship in order to validate claims based on the mediating relationship of the UTAUT model. The table has the same criteria of boor-strapping, t-values, and p-values to indicate the relationship. However, the purpose is to reflect the impact of predictor (IV) through a mediator(s) on DV. A similar has been done in order to show mediating relationship by Pangarso et al (2020), which highlighted the rule of thumb of 0.05 or

lower for p-value and 1.97 or above for t-value. Therefore in the light of the criteria, facilitating condition is the only variable (component) of UTMT Theory which is indicating the mediating relationship between the financial literacy of household females and the use of Fin-Tech during COVID-19

ANALYSIS

Through table 4 and table 5 it has been reflected that the financial literacy of household females is significantly related to all the parameters of the UTAUT model. Although only one component from the UTAUT model i.e. facilitating condition is positively associated with the use of Fin-Tech during COVID-19. Moreover, serial mediation of facilitating conditions is also effective in relating the financial literacy of household females with the use of Fin-Tech during COVID-19. Hence on the bases of these outcomes, it is effective to indicate that the use of Fin-Tech is actually based on the level of financial literacy rather than technological inclination. Therefore, the claim formulated problem statement of this study is effective as serial mediation is significant only in the case of facilitating conditions.

That means facilitating conditions aids financially literate females to use Fin-Tech more often during COVID-19. Another fold of the study also indicated that financial literacy is the major force behind the technological inclination and also to prefer Fin-Tech for contactless transactions.

CONCLUSION & DISCUSSION

The findings of the study are consistent with the indications of Morgan and Trinh, (2020), as financial literacy is positively correlated with the UTAUT model. That means financial literacy makes people accept and use technology. However, relating the model of UTAUT with the use of Fin-Tech in COVID-19 only highlighted the positive correlation between facilitating conditions and the use of Fin-Tech during COVID-19. This is consistent with one of the prime purposes of this study to reflect that the UTAUT model was not actually the cause of preference for

Fin-Tech by household females. Similar was highlighted by Morgan and Trinh (2020) as Financial Literacy is required in order to make people comfortable with innovative products. Moreover, findings are based on household females of Generation Y & when financial literacy and the UTAUT model are associated positively then legitimate to declare findings consistent with Khan et al (2020). Consistency with these relations resulted in inconsistency with Setiawan et al. (2021), as the findings indicated the impact of COVID-19 on the use of Fin-Tech rather than technological orientation. The statement is valid as the findings of the study are only indicating the mediating role of facilitating conditions rather than any other variable of the UTAUT model. Therefore, legitimate to declare the study is inconsistent with Latha and Vatchala (2019). Al-Saedi et al (2020) and Dmitrii (2018), indicated performance expectancy and effort expectancy as the potent variables associated with the adoption of Fin-Tech.

AREA FOR FUTURE RESEARCH

This is one of the initial studies with reference of Pakistan that tries to relate the impact of financial literacy of household females with the use of Fin-Tech during COVID-19. Although there are some studies e.g. Daragmeh et al (2021) which highlighted the use of Fin-Tech during COVID-19 by Generation-X & generation X are also claimed by the head of the families. Therefore further studies might relate the UTAUT model with the use of Fin-Tech during COVID-19. Moreover, analysis of the model by taking generation as a control variable might also produce a significant impact.

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On the Impact of Transparency and Performanceon a Bank's Deposit Growth - The Case of Islamic Banks in Pakistan

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ABSTRACT

The purpose of this study is to analyze the impact of Islamic banks' performance (measured through CAMEL analysis) on customers' funds in Pakistan. This is an exploratory study and will explore the moderating role of transparency in the relationship between Islamic banks' performance and the customers' funds. Healthy financial sector improves customers' confidence and they further invest their funds in Islamic banks (Abusharbeh, 2016). Rationale utilization of the financial sector makes profitability (ROA) optimum, which in turn increases depositor's trust in the Islamic banking system (Abusharbeh, 2016). This study first time analyzes the moderating role of transparency in the relationship between Islamic banks' performance and customers' funds. The study analyzed listed Islamic Banks and conventional banks having Islamic branches. The study is supported by a sample of five banks having complete Islamic operations while eleven other commercial banks with Islamic branches/windows. The quantitative data is extracted from the database of central bank of Pakistan (SBP) for the past five years (2014-2018). Time series data has been used to perform regression analysis supported by HAC test. The study concludes that only four variables (capital adequacy, assets quality, management quality and liquidity) out of five

have significant impact on the variable of interest i.e. depositors' funds for Islamic banks in Pakistan through the moderating role of transparency. Whereas, the variable profitability (net earnings after tax) does not have significant relationship with the dependent variable through moderation of transparency. The study will be helpful for Islamic banks to formulize their policies in a way that their deposit base is increased. Further the central bank will also be benefited to impose certain regulatory requirements including CAR, reserve ratios and disclosure guidelines which are helpful for the customers. Additionally, the study will also be helpful for the customers to make rational decision while deploying their funds.

Keywords: Islamic Banking, Islamic Banks' Performance, Funds, Deposit

INTRODUCTION

Financial sector serves as lifeblood for economic growth in every country. There has been substantial research showing the causal relationship between economic growth and the financial sector (Calderon & Liu, 2003). It is argued that the direction of the relation between the two variables is of utmost importance. It has been observed that an active and healthy financial sector is desired to achieve and maintain higher economic growth rate. Research has also highlighted that the relevant growth in financial sector is desirable as it results in economic growth (Arestis et al, 2001). Besides growth in conventional banking, Islamic banking industry has also shown remarkable growth since it first emerged during 1970's. By the end of 2018, Islamic finance assets showed 0.9% growth in assets with almost USD 1.57 trillion and share around 71.7% in the overall Islamic Financial Services Industry (IFSI) globally (Islamic Financial Services Board (IFSB), 2019). This evolution shows high demand from Muslim and non-Muslim populations who have been looking for Shariah-compliant financial sector that complies with Islamic laws for their investment and financial products (Salina Rasli et al, 2020).

Research studies in Pakistan mostly remained focused around the functions of

financial sector development to achieve economic growth. Khan et al (2005) explained the observed correlation between the creation of the financial sector and economic growth over the period from 1971 to 2004. They observed that, financial sector growth has significant and positive causal relationship with the economic growth in long run, which is in line with the belief that "financial sector development leads towards growth in economy" as observed by Shahbaz (2012). The economic growth is increased by financial sector growth whereas an instable financial sector is likely to result in reduction in the growth. The tendency explains that monetary volatility restricts the impact of financial sector growth on economic growth (Shahbaz & Malik, 2010).

The major function of the banks is to play an intermediary role by collecting deposits from their customers and providing funds to the business community resulting in their business growth. This ultimately leads towards economic growth. The savings are important component for economic growth. The major function of savings is to support financial sector for further investments. People maintain their savings in banks to get return as a reward for forgoing their current consumption. Consequently, the deposits levels in the banks are affected by rate of return on such deposits. Therefore, banks encourage deposits by giving reward to their customers against these deposits (Kasri & Kassim, 2009). It is the belief of Muslims that return paid in the shape of interest on deposits is riba, and that is entirely prohibited in Islam. Due to prohibition of interest, Islam encourages various equity and trade based investments (Usmani, 2006).

Interest based conventional financial sector is prevailing in Pakistan since inception. However, with the emergence of Islamic financial sector in the late nineties, dual financial sector is working in Pakistan these days. Moreover, the Islamic banking sector is making so much growth that conventional banks have also started opening Islamic windows and branches being monitored by separate Islamic Banking Divisions in these banks and regulated by the Islamic Banking department of the central bank (State Bank of Pakistan).

Islamic banking has gained significant growth respectively in capital, Islamic financing and customers' funds. Moreover, as per SBP Islamic Banking Bulletin of September 2020, the branch network for Islamic banks in Pakistan has reached 2685, and is expected to be at 3300 branches by the end of 2021 showing a remarkable growth in Islamic branches as compared to growth in conventional branches. Due to its stable performance even during the financial crisis around the world, customers are more inclined towards Islamic financial sector, particularly in Islamic countries. As per SBP recent reports, the deposits of Islamic banks are growing at around 38% per annum.

It is a common observation that customers today have more knowledge about Islamic financial sector and are transferring towards the emerging system of Islamic finance. This research empirically explores that whether the customers are impacted by the KPI's (key performance indicators) of Islamic banks. This is explored by analyzing the causal relationship between the customers' funds of Islamic banks and CAMEL based performance components (Salina Rasli et al, 2020). These components consist of adequacy of banks' capital, earning assets' quality, management efficiency, banks' profitability, and finally their liquidity position.

Additionally, transparency is a major antecedent for creating and maintaining positive relationships between banks customers and the Islamic banks. Transparency is defined as "openness of information disclosure including both good and bad". The transparent actions of banks can impact not only the relationship between their customers but also to build their confidence. Transparency works as a moderator between Islamic banks' customers and the performance of the banks. Healey and Pelepu (2001) reported that transparency is one of the most important elements of good corporate governance. The correct and open disclosure of information is a healthy governance principle that enables investors to better evaluate a bank's performance and make rational decisions. Bank transparency reveals controlled disclosure at the banking level and distribution of related information in the financial sector (Tedesse, 2006).

Access to information is necessary to curtail information inequality between insiders and outsiders and to enable the assessment of corporate performance by the general investors (Cheung, Jiang, & Tan, 2010). Whereas low quality of information results in higher uncertainty regarding investing decisions, it also ends up in increased risk introduction and increased financial inefficiency (Flannery & Thokor, 2006). Disclosures are crucial for banks as they ensure transparency, reduce uncertainty in the market, and allow investors to make informed decisions based on objective information. For Islamic banks, the importance of disclosures is even more significant as the annual reports serve more than their regulatory purpose (Ahmed Ali et al, 2020).

Enhanced transparency and reporting keep large investors better informed about how a bank is operated and controlled and how banks are prevented from taking undue risks. In addition, the literature (Stephenou, 2010) recommends that transparency minimizes moral vulnerability, encourages answerability by helping supervision, increases market efficiency and reliability, and enhances market control.

Previous literature e.g. Hall (2006); suggests that if financial institutions report related information about their funds arrangement and risk coverage, this leads to strong market control principles that have a direct impact on banks' asset quality. Greuning and Iqbal (2008) found that disclosure is a strong tool to expose banks to market control and present reasonable data, allowing for a logical analysis of financial risk.

Because of the personal impartiality nature of the Islamic tools, business transparency is particularly important for Islamic banks. As Islamic financial institutions raise funds on the basis of profit and loss sharing, all parties to bank transactions must have full rights to the information contained in the agreements (Ariffin et al, 2007).

Investment account holders demand greater transparency in the banks financial

operations to keep reviewing their investments (Greuning & Iqbal, 2008). The scarcity of information and lack of confidence among investors could lead to the withdrawal of funds and pressurize the account holders to stop banking with Islamic banks. That can disseminate throughout the financial sector, resulting in system failure. Furthermore, Darmadi (2011) found that Islamic financial institutions are required to disclose to their investors the features of their corporate governance to allow them to determine how a bank is regulated and how their assets are handled to remain compliant with the Sharia principles in prudential manner.

Moreover, the potential for Islamic banks to face various kinds of market and operational threats such as liquidity may impact customers ' funds (Zaini & Rosly, 2008). Therefore, the aggregate output quality of Islamic banks is an important factor in assessing the prudent management of the customers' funds of Islamic financial institutions/banks. Islamic banking sector manages its funding and financing operations in Pakistan by means of two forms of deposits namely demand funds which can be withdrawn any time at demand, and the investment funds which are invested for a fixed maturity and are withdrawable at the maturity. Such funds are reinvested in the viable ventures according to Islamic modes of financing such as Morabahah, Musharaka, Modaraba, Salam, Istisna, etc., as stated by Ismal (2011) and Wijaya (2008). The healthy performance of Islamic financial sector can therefore increase the trust of customers that have more funds resulting in increased public savings and the greater number of customers in Islamic banks. Nevertheless, Islamic banks' performance in Pakistan is evaluated and controlled in compliance with the SBP Shariah governance framework.

The study analyzes data variables of customers' funds from 2014 to 2018. In addition, this analysis will use the particular variables of the banks' output that are adequacy of the capital, quality of the assets, efficiency of the overall operations, profitability, and liquidity position to estimate the amount of their impact on customers' funds.

THEORETICAL BACKGROUND

2.1 Performance theory of banks

Under the performance theory of banks, each Financial Institution/bank is assessed with respect to five key elements of CAMEL analysis that represent bank's major financial and management aspects. CAMEL is defined as analyzing the five key elements of a bank i.e. capital adequacy, assets' quality, management efficiency, earnings of the bank and its liquidity position. Hasbi and Haruman (2011) initially, focused that the relative impact of these five dimensions on customers' funds is significantly influential and carries utmost importance. However, later on, they noticed that adequacy of capital and efficiency of overall operations had a strong and positive relationship with customers' funds, although profitability, performance of the assets, and overall liquidity variables had no significant impact on customers' funds. In addition to this, other studies e.g., Mohtarom (2009) indirectly reported that the rise in performance indicators had a direct impact over the banks' deposits.

Similarly, Aldehani et al (2015) explored Islamic banks' output prior to and through the financial catastrophe in 25 Gulf countries. They used Islamic financing/asset and deposit/ asset ratios to measure Islamic banks' performance. They found that Islamic financial institutions were more stable before and during the slowdown than the conventional banks.

The customers' funds are affected through financial and operational performance of Islamic banks, because the performance has an impact on the funds deposited by the customers. In addition, customers are interested in managing their funds held in Islamic banks to ensure effective and efficient use of their savings yielding best possible returns given the risk level involved.

Islamic Banks' financial performance through CAMEL analysis is generally divided into a number of elements like criteria for adequacy of capital, earning value of the assets, competence of the overall operations, and the bottom line, i.e.

net profitability (Bashir, 2001). Such elements allow financial institutions to assess their monetary and operational actions based on the assessment of CAMEL (Hasbi & Haruman, 2011). Thus, in addition to operational activities, the study carefully explores the assets and liabilities sides to protect and manage the funds of Islamic banks' customers and to ensure public trust in the Islamic financial sector.

2.2 Behavioral theory of life-cycle savings

Deposits are the function of savings. Savings are aimed to increase assets or to meet some financial obligation in future (Chang, 2004), and the ultimate causes for savings have been described in different ways (Canova, Rattazzi, & Webley, 2005). Sufficient literature with theoretical and empirical consideration is available on the concept of saving (Canova et al, 2005).In the discipline of psychology, saving is viewed as an act of regularly setting aside resources for achieving some goal in future (Lewis, Webley, & Furnham, 2005). In addition to the psychological factors, the saving decision is also affected by economic factors (Furnham & Argyle, 2008).

The major function of savings is to serve as a strong base for investment. People maintain their savings in banks to get return as a reward for forgoing their current consumption. Consequently, the deposits levels in banks are affected by rate of return on such deposits. Therefore, banks encourage deposits by giving reward to their customers against these deposits (Kasri & Kassim, 2009). As such healthy performance of banks is a key factor to offer an attractive profit rate to their customers.

3- Literature Review

Keeping in view the performance assessment of the Islamic Bank, Menarvi (2011) stated Islamic financial institutions are appraised on strength and the direction of elements of CAMEL as in conventional banks to ensure a healthy state. Sahajwala and Bergh (2000) explained that Islamic banks ' performance is assessed on various elements such as adequacy of capital, assets growth, profitability and liquidity based on CAMEL's traditional framework published by the Federal Reserve bank

U.S.A, which is applicable both for conventional and Islamic banks.

Whereas, Sarkar (2006) claimed that the CAMEL concept is aimed at evaluating and monitoring changes in the financial health and risk appetite of a bank to produce timely caution and to help the central bank and other regulatory bodies to take justified action in a timely manner. Sarkar (2006) explained that CAMEL is a justified reflector showing bank's financial health and customers' interest, as it interacts with major assets and liabilities as well as profitability.

Past studies drawbacks are that most of them centered on addressing Islamic banking industry's financial characteristics compared to conventional ones. There have been very few research studies in the past that have addressed the gap in exploring the effect of banks' overall output on their deposit related customers, particularly the effect on customers ' funds in relation to certain prominent risks such as ineffective financing and operational risks. Resultantly, this study attempts to explore the relationship among some specific factors of banks output and the customers' funds.

3.1 Capital Adequacy Ratio (CAR)

Khan and Merakhor (1987) stated the supposed value of deposits is not confirmed and will keep varying depending on the bank's actual output, any change in the Modaraba and Mosharaka agreements will also change the worth of public deposits. In this setting, Sundarajan and Errico (2002) claimed that banks' asset financing risks in all degrees can transfer to their investment deposit customers. According to Jozsef Varga et al (2020), this component of CAMEL analysis is a major indicator of soundness for banks. The equity capital reflects the financial capability of a bank and allows cushion against the losses, if any. Moreover, according to Salina Rasli et al (2020) capital adequacy is measured on the bank's financial strength and capital position. This ratio is derived by calculating the total capital over total assets, which to discover the banks' ability and capacity to hold a reasonable level of losses from banks' operation.

H1: Capital adequacy ratio has statistically significant impact on Islamic banks' deposits in Pakistan.

3.2 Non Performing Financing

Banks' asset quality is linked to the quality of the credit provided by the bank as measured with the non-performing loan (NPL) which consists of overdue loans and follow-up loans (Salina Rasli et al, 2020). Furthermore, Zaini and Rosely (2008) studied the risk and the corresponding profit of the customers of Islamic bank investment. They found that the overall output of the bank had a significant impact on deposits for investment. The higher risks associated with the credit and inadequate financing, however, may decrease the value of the Islamic bank's capital and customers funds. Jozsef Varga et al (2020) state that the rating of bank's assets (financing, investments, etc.) must be carried out after certain intervals. They used rated loans, particularly the rate of nonperforming financing compared to total financing.

H2: Nonperforming financing has statistically significant impact on Islamic banks' deposits in Pakistan.

3.3 Efficiency of the Operations (OEOI)

Rosely (2005) stated that deposits from Islamic banks are not a viable option if Islamic institutions' outlays show unfavorably higher expenses of such transactions. This shows that the unfavorably elevated working costs in Islamic financial institutions over their operating income can decrease the amount of their customers' funds towards Islamic financial sector. According to Jozsef Varga et al (2020), the assessment of management performance is the most subjective component of the CAMEL analysis. However, they used the earnings before tax compared to the total earnings as the measure for management assessment. Salina Rasli et al (2020) argued that management efficiency reflects the soundness of bank's management as safeguard acting of the management to operate the bank efficiently and smoothly. This depends on how management controls its cost to increase productivity as well as banks achieve higher profits ultimately known as excel-

lence management or skillful management.

H3: Operational efficiency has statistically significant impact on Islamic banks' deposits in Pakistan.

3.4 Net Earnings (ROA)

The study examines Islamic banking literature on Islamic funds and earlier studies that examined the association between the output quality of Islamic banks and the funds of their customers. Initially, Seddiqe (1981) considered banking on profit and loss sharing basis instead of paying and collecting interest on financial transactions. He replaced the concept of interest rate with the Islamic concept of profit and loss sharing (PLS) rate to comply with the principles of Islamic financial transactions. Under the PLS scheme, Seddiqe (1981), introduced that Islamic banks' assets and liabilities are correlated as the firms share profits or losses with the banks, converting profits or losses to the banks' customers. As per the research study by Jozsef Varga et al (2020), the most important element of CAMEL analysis is ROA, which shows how much earning one unit of investment gives. According to Salina Rasli et al (2020), earnings quality (EQ) is subjected to the effectiveness and efficiency of assets and liabilities management of an institution. The earnings performance' increase should attract stakeholders' confidence, such as depositors, investors, creditors, and the public.

H4: Profitability has statistically significant impact on Islamic banks' deposits in Pakistan.

3.5 Liquidity

People having surplus funds over their spending, deposit their savings in the Islamic financial sector which in effect invests their funds in the businesses that are in need of such funds for their business operations. Since financial sector deals with concept of governing the flow of funds from the superfluous people to the deficit businesses, it is very simple to mention the essence of the Islamic economic system (Rosely, 2005). According to Jozsef Varga et al (2020), liquidity shows that how much the bank can fulfill its short-term liabilities using its current assets.

To reach the continued solvency, banks need to create harmony in the assets and liabilities by date and maturity. As concluded by Salina Rasli et al (2020), bank's liquidity refers to cash reserves, securities, bank's ability to convert an asset into cash, and available bank lines of credit. To have adequate liquidity, it must meet one-year maturity period for all unsecured debt obligations.

H5: Liquidity has statistically significant impact on Islamic banks' deposits in Pakistan.

3.6 Transparency

Should transparency in the banks encourage or undermine banks' stability? This topic is the subject of current bookish discussion without reaching agreement between policymakers as well as academics. Overall, there are competing hypotheses in the literature about the impact of transparency on bank risk behavior. Sufficient literature on banking shows that transparency can foster bank stability by improving the market discipline of banks ' risk-taking decisions.

The more information the public receives, the stronger the discipline of the market (Weng et al, 2015). Market regulation is a tool that could significantly restrain the motivation to take extra risk, resulting in more expensive for banks to take risks (Areffen et al, 2007). Banks having financial strength get reward for their performance and risk effectiveness, whereas banks with poor financials are fined with higher capital raising costs. Market regulations results in rewards prudent risk management and efficient operations.

Dermirg-Kent and Teresse (2008) investigated whether compliance with the basic principles of active banking supervision in connection with information provision improves bank soundness. The bank's strength is evaluated by the ratings of Moody, Z-score, and the level of disclosure of information under the core principles of Basel. They noticed that banks in countries requiring banks to routinely and reliably disclose their financial data to regulators and market participants earn more favorable financial strength ratings from Moody.

Moreover, various international bodies (e.g., the Basel Banking Supervision Committee, the World Bank, and the IMF) suggest that countries improve their banking sector transparency by improving disclosure. They suggest regulators to improve risk disclosure under Basel 2 Pillar 3 and stress that greater transparency in financial reporting contributes significantly to bank stability through the use of financial reports in active market control and banking monitoring.

In addition, enhanced openness promotes resource allocation by promoting market efficiency by increasing information irregularity (Tedesse, 2006). Meanwhile, Watts and Zimerman (2006) conclude that by controlling disclosure the knowledge distance between knowledgeable and ignorant participants in the economy is minimized by establishing minimum disclosure requirements. A disclosure of financial information from a bank allows its stakeholders to correctly evaluate the risk appetite of a bank.

Due to profit sharing arrangements, Islamic banks are likely to be more transparent than conventional banks as the investment account holders may need more information from the banks to monitor their investments (Neifar & Jarboui, 2018). In Islamic Banking Institutions, the depositors-bank relationship is that of partners, due to the underlying contract of mudarabah. Transparency presents objective and detailed information, in easy to understand manner, to the depositors about the utilization and income of their funds (Ahmed Ali et al, 2020).

H_6: Transparency moderates the effect of Islamic banks Performance on the customers' funds.

3.7 List of Hypothesis

H_1: Capital adequacy ratio has statistically significant impact on Islamic banks' deposits in Pakistan.

H_2: Nonperforming financing has statistically significant impact on Islamic banks' deposits in Pakistan.

H_3: Operational efficiency has statistically significant impact on Islamic banks' deposits in Pakistan.

H4: Profitability has statistically significant impact on Islamic banks' deposits in Pakistan.

H5: Liquidity has statistically significant impact on Islamic banks' deposits in Pakistan.

H6: Transparency moderates the effect of Islamic Banks Performance on the customers' funds.

4- Data Extraction and Methodology

This is an exploratory study based on quantitative data analysis. Accordingly, the purpose of this chapter is to explain data description, measurement of variables, research methodology, model specification and econometric model. Analyses have been performed using time series, quantitative secondary data.

4.1 Data Description

The study analyzed listed Islamic Banks and conventional banks having Islamic branches. These banks are registered with SBP as well as Pakistan stock exchange (PSX). The study is supported by a sample of five banks having complete Islamic operations while eleven other commercial banks with Islamic branches/windows. The data is extracted from the database of central bank of Pakistan (SBP) for the past five years (2014-2018). In addition to data extraction from Pakistan Bureau of Statistics, and publications of SBP, annual financial reports of the banks for the period of five years (2014-2018) are also analyzed for information disclosure to measure transparency.

4.2 Measurement of Variables

The basic purpose of the study is to analyze the variation in customers funds (DF) with respect to the impact of the elements of CAMEL with moderating role of transparency. As such the variable customers funds is the basic interested variable of the analysis and is being considered as a proxy for confidence of banks' customers in Islamic banking sector. Considering the types of bank deposits, Hasbi and Haruman (2011) measured this component as follows:

DF = (Demand deposits + Investment deposits) DV (1)

The explanatory components consist of five elements of CAMEL that are used to measure bank's overall output (performance indicators) discussed as follows:

4.3 Capital Adequacy Ratio (CAR)

This refers to bank's equity position where the capital net off revaluation surplus is capable to cover all losses and the long term resources of the bank resulting in a sufficient excess for the ongoing operations and the future viable growth projects (Ebhodeghe, 2001). It is measured as bank capital (general reserves, capital, surplus income, and income from the current operations, excluding revaluation surplus, if any) with respect to risk weighted assets (Sarkar, 2006). As such this element is measured as:

CAR = (Adjusted capital of the Bank/ Total assets carrying Risk weights) IV1 (2)

4.4 Nonperforming or Delinquent financing

This is reported as the quantum of overdue finance for which provision has been held under objective or subjective criteria as laid down by the regulatory bodies. It is a measure of quality of the bank's resources and it shows the ability of a bank to diversify risks and to recover the defaulted finances (Sundarajan & Errico, 2002). The lesser ratio shows the better quality of the earning assets. Thus, it is measured as follows:

NPF = (The principal amount of non performing finances / Total finances) IV2 (3)

4.5 Efficiency of the Operations (OEOI)

This proxy is used to calculate efficiency of the bank's management, and is calculated by dividing operating cost to operational income (OEOI) as explained by Sarkar (2006). He stated that OEOI can be an alternative measure to assess quality of management in a bank. As such the lower OEOI shows that management is running the operations efficiently for the bank. This is measured as:

OEOI = (Operational Expenses / Operational Incomes) IV3 (4)

4.6 Net Earnings (ROA)

Net Earnings can be measured in different ways due to a number of indicators of net earnings such as ROE, ROA, etc., while many researchers favor to apply profit on assets (ROA) because it covers optimum utilization of total assets to generate net profit. Rosely (2005) explained profit on assets as income less taxes divided by total assets. Therefore, it is measured as follows:

ROA = (Net profit after tax / Total assets) IV4 (5)

4.7 Liquidity

This reflects a bank's capacity to pay off amounts due within one year and demand deposits. Alternatively, it is the capability of a bank to exchange its resources into cash without undue costs (Sunderajan & Erreco, 2002). Meanwhile, Hasbi and Haruman (2011) used the ratio of total funding to total deposits to measure Islamic banks' liquidity status. As such it is measured as:

FDR = (Total finances/ Total demand and time deposits) IV5 (6)

4.8 Transparency

In the financial literature (e.g., Baumann & Nier, 2003; Bushman, Piotroski, & Smith, 2004) and in relation to banks, many metrics and various indices of transparency have been used. This study uses a multidimensional transparency measure unique to Islamic banks based on previous studies and regulatory documents released by the Islamic Financial Services Boards (IFSB), and Accounting and Auditing Organization for Islamic Financial Institutions (AAOIFI).

In general, a corporate transparency disclosure index will be built using a disclosure checklist composed of various items grouped into five distinguished information types that a bank must tackle to attain a crucial level of transparency. In this study, these steps will be used for the general disclosure of corporate data, the disclosure of financial information, the general disclosure of corporate governance, and the disclosure of risk management.

The disclosure is measured binary in nature (i.e., occurrence vs. nonoccurrence) instead of qualitative, using content analysis (Haniffa & Hudaib, 2006). The score

is 1 for each item if the bank discloses the information, otherwise it is 0. All items carry equal weight to exclude any biased findings on the comparative importance of each item (Hodgdon & Tondkar, 2008). The index used in this study is based on the quantity of the annual reports issued by the banks. The score for each bank j and for each element of corporate transparency is determined as follows:

$$CTDIj=(\sum njiXij\times 100) / nj$$

Where CTDIj is the corporate transparency disclosure index of the bank j and ranges from 0 to 100, Xij varies from 0 to 1 and nj is the maximum number of items. A cumulative transparency disclosure score is obtained for each account by taking an average of five intermediate ratings. The higher a bank's score, the more transparent it is to publish its annual report.

Additionally, transparency level of all banks will also be measured through SBP penalty amounts imposed due to non-compliance of Shariah principles. The lesser the amount of the penalty, the higher will be the transparency level.

Methodology

5.1 Model Specification

This study contains the following equations to econometrically analyze the effect of Output/Performance of Pakistani Islamic Banks over the customers' funds:
General Equation:

$$Y_t= \alpha + \beta X_t+ \varepsilon_t$$

Where Y is dependent variable and Xt is set of regressers.

This study estimates the following equation to find the relationship of Islamic banks' performance and the customers' funds:

$DF_t = \alpha + \beta_1 CAR_t + \beta_2 AQ_t + \beta_3 ROE_t + \beta_4 OE_t + \beta_5 LDR_t + \beta_6 CTDI_t + \varepsilon_t$.....(1)

Moderating Role of Transparency, measured on the basis of information disclosure:

$DF_t = \alpha + \beta_1 CAR_t * CTDI_t + \beta_2 AQ_t + \beta_3 ROE_t + \beta_4 OE_t + \beta_5 LDR_t + \beta_6 CTDI_t + \varepsilon_t$.....(2)

$DF_t = \alpha + \beta_1 CAR_t + \beta_2 AQ_t * CTDI_t + \beta_3 ROE_t + \beta_4 OE_t + \beta_5 LDR_t + \beta_6 CTDI_t + \varepsilon_t$.....(3)

$DF_t = \alpha + \beta_1 CAR_t + \beta_2 AQ_t + \beta_3 ROE_t * CTDI_t + \beta_4 OE_t + \beta_5 LDR_t + \beta_6 CTDI_t + \varepsilon_t$.....(4)

$DF_t = \alpha + \beta_1 CAR_t + \beta_2 AQ_t + \beta_3 ROE_t + \beta_4 OE_t * CTDI_t + \beta_5 LDR_t + \beta_6 CTDI_t + \varepsilon_t$.....(5)

$DF_t = \alpha + \beta_1 CAR_t + \beta_2 AQ_t + \beta_3 ROE_t + \beta_4 OE_t + \beta_5 LDR_t * CTDI_t + \beta_6 CTDI_t + \varepsilon_t$.....(6)

Where:

DF = Customers' funds
CAR = Capital Adequacy Ratio
AQ = Assets Quality (Non performing loans)
ROE = Return on equity
OE = Operational Efficiency
LDR = Loan to deposit ratio
CTDI = Corporate Transparency Disclosure Index
ε = Error Term
t = Time Series

5.2 Econometric Model

The study reflects descriptive/summary statistics showing coefficients that summarize a given set of data that can be either a representation of the whole population or a subset of a population. Descriptive statistics are divided into measurements of central trend and measurements of variance (spread). Furthermore, correlation is used to calculate the linear relationship between two quantitative variables and to denote the magnitude and direction of the relationship between variables.

Regression is a technique which allows a researcher to estimate the linear or straight line relationship which shows the impact of X denoted independent variable(s) on the dependent variable denoted by Y. This is also known as ordinary least square (OLS) estimator. Furthermore, in order to address the issues of heteroskedasticity and autocorrelation, HAC test (Heteroskedasticity- and autocorrelation-consistent) has been used to validate the assumptions of regression.

6-Conclusion of the Study

This study has attempted to analyze the moderating effect of transparency

between the bank specific financial variables (CAMEL) and customers' funds for Islamic banks in Pakistan. The five key elements of CAMEL have been used as independent variables which are: capital adequacy ratio, assets quality (non performing financing), management quality (operational efficiency), profitability and the liquidity. The study concludes that only four variables (capital adequacy, assets quality, management quality and liquidity) out of five have significant impact on the variable of interest i.e. customers' funds for Islamic banks in Pakistan through the moderating role of transparency. Whereas, the variable profitability (net earnings after tax) does not have significant relationship with the dependent variable through the moderation of transparency. Moreover, the study concludes that Islamic banks in Pakistan can impact their customers' funds with transparency moderating through capital adequacy, assets quality (nonperforming financing), management quality and liquidity position. These findings are similar to that concluded in earlier studies such as Zaini and Rosly (2008), Hasbi and Haruman (2011) and Ismal (2011).

The study has reached that transparency moderates between the key elements of bank performance and the behavior of the customers and their approach towards Islamic banks such as capitalization, management efficiency and the liquidity. This means that high levels of capital adequacy, management efficiency and the liquidity will generate high level of customers' funds. Whereas increase in nonperforming financing carrying significant default risks will result in decrease in public confidence in Islamic banks. Similarly, the study shows that the element of profitability does not affect deposit level significantly.

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Sharia Based Profit & Loss Distribution in Islamic Banking. Reality or Myth? An Analysis based on the Application of weightages

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ABSTRACT

This study explores the calculation and application mechanism of weightages in profit distribution by Islamic Banks and Windows in Pakistan to identify the factors, which determines the said weightage. Quasi experiments as well as regression analysis are carried out on the three months data of five full-fledged Islamic Banks and Nine Islamic Windows of Conventional Banks to identify the significance and impact of Size of deposits, its tenure, profit frequency and profit rates on the weightages of the respective deposit product. The Quasi Experiments conducted on all fourteen Islamic Banks & Windows suggest that it is only the profit rate, which is being used for weightage calculation by these banks and other factors are insignificant. Regression results confirm that there is significant positive relationship between all the factors and weightages; however, it is the profit rate, which had the most significant impact. This study suggests various measures to the Regulators, Scholars and Islamic Banks for improvement in the profit distribution mechanism.

Key Words: COVID-19, Stock return, Panel data analysis, Italian stock market

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INTRODUCTION

Consenting to the standards of Shari'ah as cherished in the Holy Quran and the Sunnah of the Prophet (peace be upon him) is the substance of Islamic banking industry. A sound and viable Shari'ah consistence system is in this manner basically imperative to offer certainty to the overall population about Shari'ah conformity of Islamic Banking Institutions' (IBIs') products and services.

The dependability and flexibility showed in the wake of financial by Islamic banking industry has prompted to its more extensive acknowledgment as a practical and aggressive segment of the financial system. The inborn qualities of the Islamic financial system of being founded on gainful monetary movement and without unnecessary influence and indiscreet hazard taking have been key drivers of its essentially enhanced worthiness and expanding offer in the worldwide money related framework.

Notwithstanding, this financial crisis era is challenging in the meantime, because of the low certainty of clients in the predominant financial system alongside the lull in worldwide economic development. The second round effect of financial crisis on Islamic financial institutions has likewise demonstrated that the inbuilt shields of the Islamic financial system should be supplemented with a powerful administrative structure, improved straightforwardness and satisfactory cushions for guaranteeing its economic development and sustainable growth2.

The financial crisis of 2007–2008, also known as the global financial crisis and the 2008 financial crisis, is considered by many economists to have been the worst financial crisis since the Great Depression of the 1930s. It began in 2007 with a crisis in the subprime mortgage market in the United States, and developed into a full-blown international banking crisis with the collapse of the investment bank Lehman Brothers on September 15, 2008. Excessive risk-taking by banks such as

[2]Rosman. Wahab Zainol "Efficiency of Islamic banks during the financial crisis: An analysis of Middle Eastern and Asian countries" Pacific Basin Finance Journal 28 (2014): 76-90

Lehman Brothers helped to magnify the financial impact globally. Massive bail-outs of financial institutions and other palliative monetary and fiscal policies were employed to prevent a possible collapse of the world financial system. The crisis was nonetheless followed by a global economic downturn, the Great Recession. The European debt crisis, a crisis in the banking system of the European countries using the euro, followed later. However, Islamic banks were able to sustain operations through the crisis.

Previously many researches have been conducted to identify the differences between the conventional and Islamic Banking practices (Hanif 2011) and how Islamic is the Islamic Banking in practice has been analyzed (Feisal Khan 2010).

There had been a lot of criticism on the pool management and profit distribution mechanism by the researchers recently, which have even classified Islamic deposits to be not interest-free, but closely pegged to conventional deposits (Chong 2009). Few have concluded that the case of Islamic Banks is the same as is of conventional banks (Zubair 2014).

Majority of the researches are focused towards use of profit & loss sharing mechanism in Islamic financing (Sadique 2009, Omar 2006) and only few have focused on the deposit side and Mudarabah based profit distribution (Ahmed 1996). Among those researches, there had been almost no work on the shariah compliant application of weightages to different deposit products in a pool and the resultant profit distribution.

Review of Literature

Dar & Presley (2001) attempts to find major cause of lack of Profit Loss Sharing (PLS) in the practice of Islamic finance through descriptive research. Empirical study on the imbalance between management and control rights of Islamic Banks was analyzed. The research concluded that Islamic banks will persist in taking the easy and risk averse route and avoid profit and loss sharing contracts. The paper

recommended elimination of incentive to cheat and made

suggestions as to how venture capital can be developed in an Islamic setting, without fear of the system collapsing or being restricted in its development.

Chong & Liu (2008) attempted to establish whether Islamic banking is really different from conventional banking by using bivariate Granger causality test and further carrying out carried out unit root and co-integration tests to determine the long-run relation as well as short-run dynamics between conventional deposit rates and Islamic investment rates. The series of monthly data on the average rates across all financial institutions of Malaysia with the sampling period from April 1995 to April 2004 was collected. The sample size was 109 for each time series. The results indicate that because of competition from conventional banking, the returns on the Islamic deposit accounts are effectively pegged to the returns on conventional-banking deposits. The study concluded that the Islamic Deposits are not interest free and thus, suggested that Islamic banks should be regulated and supervised in a similar manner as conventional banks.

Nasir (2009) examined the economic rationale and justification for profit distribution practices in Islamic financial institutions in Malaysia through qualitative research method and employed exploratory research approach due to their appropriateness in achieving the objective of the study. The results depict evidences of unjustifiable practices in the course of distribution of profit by the practitioners in this sector of economy. As such, the study offered a guide aimed at ensuring the upholding the principle of on-going concern of the shariah-compliant financial institutions businesses and recommended the gross profit sharing (GPS) information system with variation of pre-agreed sharing ratios for all categories of fund providers.

Ahmed (1996) identifies the problem arising due to Islamic banks' commitment to share the actual profits resulting from investing depositors' money, with them. the author examine FIBS figures for two consecutive years to show how part of

the profits accruing on the investment of current deposits, which actually belong to the shareholders, were diverted to boost the profit share of depositors into investment accounts. The study recommended two techniques for mobilizing deposits in Islamic banking may be used to substitute interest based deposits; namely,
(a) Mudarabah contract, where all funds are held in one pool for investment and
(b) Limited

Period Mudarabah contract, where each group of Mudarabah certificates is invested in one project and profit is distributed when the project is liquidated.

Hamza (2015) examine the compliance of investment deposit return with profit and loss sharing principle. This compliance is analyzed through the impact of bank's risk, governance mechanisms and competition environment on investment deposit return through use of pooled regression model applied to a panel of sixty Islamic banks during the period 2004 to 2012. The estimation indicates that the management of investment deposit and PLS assets are characterized by a moral hazard behavior and excessive risk taking. The estimation reveals that capital ratio and interest rate affect positively investment deposit return. Small Islamic banks offer a better return of deposit compared to the large bank. The study suggested that investment accounts holders should be integrated in the bank governance system. Besides, the Islamic banks are incited to develop a new generation of investment deposits.

Farooq, Hassan & Clinch (2012) try to ascertain whether Islamic banks do in fact manage profit distributions and if so, what factors are associated with the extent of profit distribution management. Multiple Ordinary Least Square (OLS) regressions are utilized to ascertain the factors affecting profit distribution management towards interest rates. The results suggest that most Islamic banks manage profit distributions, with the extent of profit distribution directly related to religiosity, financial development, asset composition, and existence of discretionary reserves, while it is inversely related to market familiarity with Islamic

banking, market concentration, depositor funding reliance and the age of the Islamic bank.

Hassan (2008) search for response on three basic issues in Islamic banking: First, how the profit sharing ratios in mudaraba contracts are in principle determined? Second, do the actual sharing ratios result in an equitable division of profit between the banks on the one hand and the depositors on the other? Finally, can the central bank use the profit sharing ratio along with the rate of interest for credit control so as to mitigate leverage lure in a dual banking system? The results show that the current use of mudaraba contracts in Islamic banking is beset with confusion and ambiguities. Even a cursory look at the prevalent profit sharing schemes, especially

on how the ratios are settled and weights assigned to different categories of deposits with reference to amount and time period involved needs scrutiny and control. The paper provides an explanation as answer to the first question. The response to the second is negative but positive to the third.

Mujaddidi (2017) aims to examine its compatibility with the principles of Sharı‘ah and to weigh the objections in the criticisms against usage of daily product basis and allocation of weightages for profit distribution in the Islamic banks. After conducting empirical study of both systems, the study concluded that profit distribution on daily product basis could still be justified as the best method for distributing profits/losses. The weightage has proven beneficial if it is formulated based on a transparent and logical formula, free from any form of bias. The study recommended weightage system to be used by the Islamic banks on the condition that it is not taken as a permanent solution for profit distribution.

Khan (2010) attempts to measure to what extent, then, do actual Islamic Banking practices live up to the ideal, and how different are they from conventional banking? The study shows that there remain substantial divergences between IBF’s ideals and its practices, and much of IBF still remains functionally indistinguisha-

ble from conventional banking. However, despite not providing an alternative to conventional banking and finance, IBF does strengthen a distinctly Islamic identity by providing the appropriate Islamic terminology for de facto conventional financial transactions.

Malik, Malik & Mustafa (2011) explores and highlights all those controversies and challenges which are in minds of different school of thoughts and are needed to be addressed and overcome if Islamic banking continues flourishing the way it is at present. It also suggested Islamic banking industry need for review to carter the demand of more sophisticated products and services which is likely to grow rapidly. It should be innovating rather than replicate the conventional banking products to meet the growing needs of its customers.

Hanif (2011) attempts to address the perceptional issues by identifying the similarities and differences in Islamic and conventional banking. Evidences of the study suggest Islamic banking is very much practiced like modern conventional banking with certain restrictions imposed by Sharia and addresses the large number of business requirements successfully hence perceiving Islamic banking as totally foreign to business world is not correct. It was further found in the study that Islamic banking is not a mere copy of conventional practices rather major differences exist in the operations of Islamic Financial Institutions (IFIs) in comparison with conventional banking. Moreover, it conclude that IFIs have succeeded in creating trust in the eyes of depositors and receive deposits on profit and loss sharing basis however investment and financing options available to Islamic banks are limited in comparison of conventional banks.

Conceptual Framework

Pool Management and Profit Distribution Mechanism in Islamic Banking

For any Commercial Bank, Liability side (Deposit) is the most important and critical segment. There are major structural differences between the deposit placed in a Conventional Bank (CB) and an Islamic Bank (IB). In IB, non-remu-

nerative current account may base on Qardh (Loan)3 or Wakalah4 whereas the remunerative deposits are based on Mudharabah5 and Musharakah6.

The Bank offers different categories of Time and Demand liability products for its deposit customers.

Non-Remunerative Accounts

The Bank receives Current Account deposits based on Qardh or Wakalah, which unless specified otherwise are treated as equity of the Bank7. The Bank receives Current Account deposits based on Qardh on the condition that the depositor agrees to the unfettered use of the deposited funds by the Bank at its discretion in Shari'ah-compliant business as approved by its Shari'ah Advisor/Board, and that the depositor will not claim any monetary/other return in any form whatsoever.

Remunerative Deposit Products

Remunerative deposits accounts are based on Mudharabah/Wakalah. The account holder agrees to enter into a relationship where:

• **The Depositor** will be an investor (Rabb-ul-Maal/Muwakkil). The relationship of Shirkat-ul-Aqd will exist between all the depositors. The profit calculations of these investors are based on predetermined weightages.
• **The Bank** on the other hand will be Manager (Mudharib/Wakil). In case of Mudharib, the Bank will have a dual role; one as the Manager (Mudharib) of the funds deposited by the customer and two, has the option to invest in the deposit pool with other investors. However, Bank share of income as investor will be in proportion to bank equity invested in any pool before distribution of profit between Rabb-ul-Maal & Mudharib.

[3] Qardh is a specific contract on transferring a specified property to another party on condition that a similar property will be given back in return.

[4] Wakalah is a term in Islamic finance that denotes an agency contract, where one party appoints another to conduct a defined legal action on his behalf, for a specified fee or commission.

[5] Mudarabah is a distinct type of partnership, wherein one partner provides the capital to an entrepreneur (another partner) for investing in a commercial initiative, with the objective of sharing profit from the commercial entity.

[6] Musharakah is a joint enterprise or partnership structure in Islamic finance in which partners share in the profits and losses of an enterprise.

[7] Current Account is based on Qardh/loan contract where the Bank is liable to pay customer money back on demand and thus can use it as it's equity, as oppose to Amaanah, where the given money cannot be used by borrower.

General Structure

Pool Management refers to appropriate allocation by way of transfer of financing assets to a specified pool of depositors with the risks and rewards linked at any point of time. Income generated from the assets is assigned to its related pool for the period it remains linked to that pool and it is distributed based on profit sharing ratio/weightages which are assigned based upon amount, tenure and nature of deposits.

The Banks allocates the fund received from the customer to one or more Pools (like PKR, FCY deposit pool) based on the type of currency, investment strategy, distinct risk & reward features and tenure. These funds may be utilized from the pool to finance customers under Islamic modes that include, but are not restricted to Murabahah, Ijarah, and Diminishing Musharakah.

The Banks treat each pool as a virtual enterprise having its own assets, liabilities, income and expenses, which are identifiable, balanced and verifiable at all time. Further, the banks are required to maintain transaction records for each pool separately.

The Banks applies the concept of constructive liquidation for distributing profit as final settlement to closed/matured accounts that close or mature between profit calculation points and calculates the profit of the Deposit Pool every month.

Constructive Liquidation

Constructive liquidation means that accounting procedures are applied to decide the profit and loss status of the operation. At every end of period, where Islamic Banks needs to distribute profits to its accountholders, the business has to be liquidated constructively by way of valuation of the assets. "AAOIFI Shariah Standard No. 40 on Distribution of Profit on Mudarabah-based Investments Accounts" defines constructive liquidation as a method where, in addition to cash amounts, noncash assets are valued by experts, along with valuation of all debts with regard to possibilities of collection and appropriate allocation for bad debts.

Using these Banks calculate Gross Income (Return) of each deposit pool by taking all the assets booked by utilizing the funds from that Pool and allocates the net

income between the bank and Depositors when the Bank comingles funds in proportion to their respective share in pool. Here Bank's equity includes Bank's own fund, non-remunerative and current accounts' deposit.

Income and expenses charged to the pool follows two (2) under-lying principles below as to which type of incomes and expenditures can be taken on the pool.

1. Income that is not using depositor funds will not be shared with the depositor
2. Costs not directly identifiable with Funded Assets in the pool will not be charged to the pool

The Bank shall charge all direct expenses to respective pool, while indirect expenses including the establishment cost shall be borne by itself as Mudharib.

The Bank then shares the Net Income (after adjustment of bank share in the pool) between the Bank (as Mudharib) and Depositors (Rabb-ul-Maal) in a predetermined ratio (%) of the actual profit earned.
The Bank's compute the Profit in Remunerative deposits on the basis of average balances and credit to the depositor's account on average balance/daily product basis during the profit period. The distribution of profit among the depositors is made on the basis of predetermined weightages based on their respective category/tiers. In case of any loss, The Banks are required to share among the members of the Investment Pool in ratio of their actual investment.

Assignment of Weightages Mechanism

The Banks assign weightages to all categories of the depositors as they derive weightages for the month based on expected deposits, expected income and expected profit rates. The Banks normally claim to assign weightages on following basis:

- Investment tenure
- Profit payment option
- Amount tiers
- Type of account
- Market trend

However, weightages shall not provide the exact rate of return on any category of deposit; it shall reflect Bank's preferences among all depositors during the month. While assigning weightage, the Bank has an idea for expected (projected) gross income and expected profit rate.

The Bank shall distribute Profit amongst investors based on weightages assigned to different account categories.

Illustration of Profit Distribution

Say in June 2018 a bank earned profit amounting PKR. 200,000 against deposit of PKR. 9,000,000 and commingled equity including current accounts amount to PKR. 3,000,000. Assume a 55 : 45 profit sharing ratio between Rab ul Maal and Mudarib respectively, then if we distribute profit to all category depositors at flat rate, It will neither be logical, nor rational or justified.

On the other hand it is not possible for the Bank to invest particular category of deposit to particular category. To make logical, rational, justified Islamic Banking introduced weightage system. Calculation of the profit will be as follows:

Profits Received from Different Assets		**FUNDS AVAILABLE FROM DIFFERENT SOURCES (EQUITY AND DEPOSITS)**	
Murabaha	**60,000.00**	Equity	3,000,000.00
Ijarah	**40,000.00**	Remunerative Deposits	9,000,000.00
		Total Pool Size	12,000,000.00
Diminishing Musharakah	**30,000.00**	Profit Sharing Ratio	
Istisna'a	**20,000.00**	Bank(Mudarib)	45%
Total Profit	**200,000.00**	Remunerative Depositors (Rab ul mal)	55%

PROFIT DISTRIBUTION	
Share of Equity (200,000 x 2 M / 12 M)	50,000.00
Share of Mudaraba (200,000 x 10 M / 12 M	150,000.00
Mudarib Share (150,000 x 45%)	67,500.00
Depositor's Share (150,000 x 55%)	82,500.00

1	2	3	4	5	6
Deposits in (Pak Rupees)	Weights	Daily Average Balance	Weighted Daily Average Balance	Allocated Profit	Annual rate of return
			Col2*Col3	Col 4 *Distributable	(Col 5/Col 3) * 100 / 365/30
Saving Deposits					
1 to 249,999	0.7500	200,000.00	150,000.00	1,076.09	6.55%
250,000 to 499,999	0.8000	600,000.00	480,000.00	3,443.48	6.98%
TDR of less than 1 million(profit to be paid monthly)					
1 month	1.0500	1,000,000.00	1,050,000.00	7,532.61	9.16%
3 month	1.1000	1,200,000.00	1,320,000.00	9,469.57	9.60%
TDR 1 million to 9.99 million (profit to be paid monthly)					
1 month	1.2500	2,000,000.00	2,500,000.00	17,934.78	10.91%
3 month	1.5000	4,000,000.00	6,000,000.00	43,043.48	13.09%
TOTAL		**9,000,000.00**	**11,500,000.00**	**82,500.00**	

Theoretical Background

While the achievements made by the industry during last decade are commendable and gives optimism about continuation of growth momentum, the industry is still in the evolutionary phase and need collaborative efforts by all stakeholders, particularly the regulator and practitioners, to take it to the next level of growth and development. Despite strong growth momentum the industry perception is still not very positive largely due to limited awareness and apparent similarities between conventional and Islamic banking products. The legal and regulatory framework and taxation environment though improved over the years still need significant changes to enable Islamic banking to achieve its real potential and contribute in development of a sound, stable and inclusive financial system. Similarly the product offerings are overwhelmingly debt-based, which though meet the minimum Shariah requirements

however don't meet the Shariah objectives of **"risk and reward sharing"** and equitableandbroad based distribution of economic gains.

Since Islamic law (or Sharia) does not permit the concept of interest in lending, musharakah allows for the financier of a project or company to achieve a return in the form of a portion of the actual profits earned according to a predetermined ratio. However, unlike a traditional creditor, the financier will also share in any losses should they occur, also on a pro rata basis.

The five advantages that are offered by Islamic finance, which have made it a preferred choice among countries that have accepted it as a financial discipline8:

1. It assists in financial inclusion

The conventional banking system is based on paying interest at a pre-determined rate on deposits of money. As both payment and receipt of interest is prohibited by the Shariah law, Muslims generally abstain from banking. Through Islamic banking, financial inclusion can be promoted and a larger pool of saving s can be brought into the economy.

2. Reducing the impact of harmful products and practices

Shariah principles forbid any investment that would support industries or activities that are considered harmful to the people and the society in general. This includes usury, speculation and gambling, irrespective of whether these are legal or not in a given territory.

3. It promotes the principle of financial justice

Financial justice is a basic requirement for the functioning of Islamic finance products. Western or conventional financing looks forward to profit through interest payments and makes the beneficiary completely liable for any risk. Contrary to this, Islamic financing paves way for the

sharing of net profit/loss and the risk involved in a proportional manner between the lender and the beneficiary. Therefore, if a financier is expecting a claim on profits of a project, it is necessary that he/she should also carry a proportional share of the loss of that project.

[8] Source: www.guidanceresidential.com, blog: five-advantages-of-islamic-finance

4. Encouraging stability in investments

In Islamic finance, investments are approached with a slower, insightful decision-making process, when compared to conventional finance. Companies whose financial practices and operations are too risky are usually kept away by Islamic financing companies. By performing intensive audits and analyses, Islamic finance promotes the reduction of risk and creates the space for greater investment stability.

5. Accelerating economic development

Islamic finance companies certainly have profit creation and growth as their objectives. For which, they choose to invest in businesses based on their potential for growth and success. Thus in the Islamic banking industry, each bank will invest in promising business ventures and attempt to out-perform its competitors, in order to attract more funds from its depositors. This will eventually result in a high return on investments both for the bank and the depositors. This is unlikely in a conventional bank, where depositors redeem returns on their deposits based on a pre-determined interest rate.

Although industry has shown rapid growth, there are still areas which require concerted and proactive efforts by stakeholders to further develop and nurture the industry.

The Islamic banking facilities and products offered by the Islamic Banks or Islamic Windows of Conventional Banks even with the support from the regulator has not yet become the major or one of the major segments of the Pakistani financial system.

Previously many researches have been conducted to identify the differences between the

conventional and Islamic Banking practices (Hanif 2011) and how Islamic is the Islamic Banking in practice has been analyzed (Feisal Khan 2010).

There had been a lot of criticism on the pool management and profit distribution mechanism by the researchers recently, which have even classified Islamic deposits to

be not interest-free, but closely pegged to conventional deposits (Chong 2009). Few have concluded that the case of Islamic Banks is the same as is of conventional banks (Zubair 2014).

Majority of the researches are focused towards use of profit & loss sharing mechanism in Islamic financing (Sadique 2009, Omar 2006) and only few have focused on the deposit side and Mudarabah based profit distribution (Ahmed 1996). Among those researches, there had been almost no work on the shariah compliant application of weightages to different deposit products in a pool and the resultant profit distribution.

Therefore, a research need was necessitated to focus on the shariah implication on Islamic Banking Profit distribution mechanism through use of weightages. The author through empirical research will try to identify whether the weightages are announced and applied in accordance with the "AAOIFI Shariah Standard No. 40 on Distribution of Profit on Mudarabah-based Investments Accounts".

BACK GROUND OF THE HYPOTHESIS

Under Islamic Banking pool management, weightages are assigned to different categories and slabs of depositors prior to the commencement of the business period. These are then used for determination of profit rates of different categories and slabs of depositors at conclusion of the period through constructive liquidation.

The Author through analysis of announced profit rates and weightages of various Islamic banks & Islamic windows of conventional banks will try to prove that these banks applies expected profit rates as the only factor to determine weightages in such a way that other factors i.e. size

of deposits, tenure, profit frequency do not impact the profitability of the depositors making the profit distribution more an interest based rather than profit & loss sharing based.

Currently majority of the IBIs and Islamic Windows are using following two mechanism for determination of weightages:

Calculation Mechanism of Weightages (Mechanism 1)

Following abbreviations will be used to define the mechanism:

1. W	=	Weightage of Slab
2. P	=	Profit of a slab
3. EP	=	Expected Profit of a slab
4. ETP	=	Expected Total Profit
5. ADP	=	Actual Distributable Profit
6. SOP	=	Share of Profit
7. ESOP	=	Expected Share of Profit
8. EAMB	=	Expected Average Monthly Balance of a slab
9. R	=	Rate of Profit of a slab
10. ER	=	Expected Rate of profit of a slab
11. N	=	No. of Days in the month
12. WAMB	=	Weighted Average Monthly Balance in a slab
13. EWAMB	=	Expected Weighted Average Monthly Balance in a slab
14. ETWAMB	=	Expected Total Weighted Average Monthly Balance
15. WAD	=	Actual Weighted Average Deposit in a slab
16. AMB	=	Actual Average Monthly Balance in a slab
17. TWAMB	=	Actual Total Weighted Average Monthly Balance

Weightages of different products and their slabs (tiers) are calculated by dividing the Expected Average Monthly Balance, based on projections, by Expected Weighted Average Monthly Balance of the said slab.

The Expected Weighted Average Monthly Balance in a slab is calculated by using expected share of profit of a slab, which is calculated by dividing the expected profit payable in a slab by the total expected distributable profits of all slabs. Thus, the working would be as follows:

$$EP = \frac{EAMB \times ER \times N}{365}$$

$$ESOP = EP / \sum EP \text{ i.e. } EP / ETP, \text{ so}$$

$$ESOP = \frac{EAMB \times ER \times N}{365 \times ETP}$$

$$EWAMB = ESOP \times ETWAMB, \text{ where}$$

$$ETWAMB = \sum EWAMB, \text{ so}$$

$$EWAMB = \frac{EAMB \times ER \times N \times ETWAMB}{365 \times ETP}, \text{ using this weightage of a slab is calculated}$$

$$W = EWAMB / EAMB, \text{ i.e.}$$

$$W = \frac{\cancel{EAMB} \times ER \times N \times ETWAMB}{365 \times ETP \times \cancel{EAMB}}, \text{ so}$$

$$W = \frac{ER \times N \times ETWAMB}{365 \times ETP}, \text{ where } \frac{N \times ETWAMB}{365 \times ETP} \text{ is a common factor for all slabs}$$

Thus,

$$W = ER \times \left(\frac{N \times ETWAMB}{365 \times ETP}\right)$$

From the above presentation, it can be seen that the only factor used for calculating Weightages is the Expected Profit Rates, which again is a determined through KIBOR and competing bank's rates for similar products and their slabs.
Simultaneously, when we look at the profit distribution mechanism using the weightage system, we can see that the Islamic Banks and Islamic Windows are distributing the profit on the basis of

the Expected Profit rates only and the size of the deposits within various products and their slabs do no impact the resultant profit rates of them.

Profit Distribution Mechanism

The IBIs and Islamic Windows use weightages for distribution of profit through constructive liquidation every month. The Actual Monthly Average Balances of a

slab / product is converted into Weighted Average Monthly Balance by multiplying the Actual Averages with assigned weightages. The profit is then distributed amongst these slabs through share of profit, which is reach by dividing the weighted average monthly balance of the slab with the total average monthly balances of all slabs.

The profit rate is announce after dividing the share of profit of the slab with its actual average monthly balance, which surprisingly comes exactly the same as that of the expected rate.

The calculation mechanism is given below:

R = P / AMB x 365/N, where

P = ADP x SOP, where

SOP = WAMB / ∑ WAMB, so

$$P = \frac{ADP \times WAMB}{\sum WAMB}, \text{ where } \sum WAMB = TWAMB, \text{ so}$$

$$P = \frac{ADP \times WAMB}{TWAMB}$$

WAMB = AMB x W, so if we replace W with its formula:

$$WAMB = \frac{AMB \times ER \times N \times ETWAMB}{365 \times ETP}, \text{ hence we replace WAMB in the P formula}$$

$$P = \frac{ADP \times AMB \times ER \times N \times ETWAMB}{TWAMB \times 365 \times ETP}, \text{ use this formula for reaching the R,}$$

R = P / AMB x 365 / N, so replace P with above formula

$$R = \frac{ADP \times \cancel{AMB} \times ER \times \cancel{N} \times ETWAMB \times \cancel{365}}{TWAMB \times \cancel{365} \times ETP \times \cancel{AMB} \times \cancel{N}}, \text{ so}$$

$$R = \frac{ADP \times ER \times ETWAMB}{TWAMB \times ETP}, \text{ so}$$

$$R = ER \times \left\{\frac{ETWAMB}{TWAMB}\right\} \times \left\{\frac{ADP}{ETP}\right\}, \text{ replace ETWAMB, TWAMB, ADP and ETP with formulas}$$

$$ETWAMB = \sum \{\frac{EAMB \times ER \times N \times ETWAMB}{365 \times ETP}\}, \text{ where } (N \times ETWAMB)/(365 \times ETP) \text{ is common, so}$$

$$ETWAMB = \frac{N \times ETWAMB}{365 \times ETP} \times \sum \{EAMB \times ER\}$$

$$TWAMB = \sum \{\frac{AMB \times ER \times N \times ETWAMB}{365 \times ETP}\},$$

where (N x ETWAMB) / (365 x ETP) is common, so

$$TWAMB = \frac{N \times ETWAMB}{365 \times ETP} \times \sum \{AMB \times ER\}$$

ADP = Average Distributable Profit is calculated by applying ER to Actual Monthly Balances of each slab, so

$$ADP = \sum \{\frac{AMB \times ER \times N}{365}\}, \text{ where } N / 365 \text{ is common, so}$$

$$ADP = \frac{N}{365} \times \sum \{AMB \times ER\}$$

$$ETP = \sum \{\frac{EAMB \times ER \times N}{365}\}, \text{ where } N / 365 \text{ is common, so}$$

$$ETP = \frac{N}{365} \times \sum \{EAMB \times ER\}, \text{ so}$$

$$R = ER \times \frac{[\frac{\cancel{N \times ETWAMB}}{\cancel{365 \times ETP}} \times \sum \{EAMB \times ER\}] \times [\frac{\cancel{N}}{\cancel{365}} \times \sum \{AMB \times ER\}]}{[\frac{\cancel{N \times ETWAMB}}{\cancel{365 \times ETP}} \times \sum \{AMB \times ER\}] \times [\frac{\cancel{N}}{\cancel{365}} \times \sum \{EAMB \times ER\}]}$$

$$R = ER \times \frac{\cancel{\sum \{EAMB \times ER\}} \times \cancel{\sum \{AMB \times ER\}}}{\cancel{\sum \{AMB \times ER\}} \times \cancel{\sum \{EAMB \times ER\}}}, \text{ thus it can be seen that}$$

$$R = ER$$

The Bank's using this mechanism will have different factor each month but it will remain common for each deposit product for the month.

Calculation Mechanism of Weightages (Mechanism ²)

W = ER / F, where F is a factor (whole number) used to determine weightage
R = P / AMB x 365/N, where
P = ADP x SOP, where
SOP = WAMB / ∑ WAMB, so

$$P = \frac{ADP \times WAMB}{\sum WAMB}, \text{ where } \sum WAMB = TWAMB, \text{ so}$$

$$P = \frac{ADP \times WAMB}{TWAMB}$$

WAMB = AMB x W, so if we replace W with its formula:
WAMB = AMB x ER x F, hence we replace WAMB in the P formula with this

$$P = \frac{ADP \times AMB \times ER \times F}{TWAMB}, \text{ using this formula for reaching the R, we see}$$

R = P / AMB x 365 / N, so replace P with above formula

$$R = \frac{ADP \times \cancel{AMB} \times ER \times F \times 365}{TWAMB \times \cancel{AMB} \times N}, \text{ so}$$

$$R = \frac{ADP \times ER \times F \times 365}{TWAMB \times N}, \text{ so}$$

TWAMB = ∑ {AMB x ER x F}, where F is common, so
TWAMB = F x ∑ {AMB x ER}

ADP = Average Distributable Profit is calculated by applying ER to Actual Monthly Balances of each slab, so

$$ADP = \sum \left\{\frac{AMB \times ER \times N}{365}\right\}, \text{ where } N / 365 \text{ is common, so}$$

$$ADP = \frac{N}{365} \times \sum \{AMB \times ER\}$$

$$R = ER \times \frac{\left[\frac{N}{365} \times \sum \{AMB \times ER\}\right] \times F \times \cancel{365}}{F \times \sum \{AMB \times ER\} \times N}$$

$$R = ER \times \frac{\cancel{N} \times \cancel{F} \times \cancel{\sum \{AMB \times ER\}}}{\cancel{N} \times \cancel{F} \times \cancel{\sum \{AMB \times ER\}}}$$

R = ER

The Bank's using this mechanism will have same factor each month as well as it will remain stagnant for each deposit product every month.

It can be seen that the Bank's using either of the techniques, will fetch exactly the same profit rates as equal to the Expected Profit Rates, which they camouflage through use of weightages.

Hypothesis

Based on the above analysis, the hypothesis of this study is Islamic Banks and windows use expected profit rates as the only and major factor in determining and calculating weightages of their different liability products for profit and loss distribution.

FINDINGS AND ANALYSIS

In order to test and verify the hypothesis, three months profit rates and weightages of five full- fledged Islamic Banks and nine Islamic windows various deposit products of conventional banks of Pakistan are obtained for quasi experimentation i.e. for the month of June, July and August [2018].

In the First Test the factors are computed for these banks, which they use to determine the weightages after applying on their expected profit rates, in order to identify which weightage calculation mechanism are they using i.e. projection method or factorizing method. This is done through dividing the actual profit rates of the deposit product with their corresponding weightages for the month. The results of each bank are then analyzed to check the validity of the hypothesis of this research. If the banks are not using either of the calculation mechanism, the hypothesis will be rejected.

In the Second Test of analysis, the relationship between weightages of all deposit products of each bank is tested by dividing the weightages of all deposit products with the minimum deposit weightage of that bank. Simultaneously, the profit rates of all deposit products of each bank are divided with the minimum deposit profit rate of that bank. The results are then matched with the results of weightages to identify whether the relationship between profit rates and weightages are same or different. For hypothesis to be accepted, both relationships should give same ratio.

The Bank wise results are as follows:

Meazan Bank

Test 1

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18
Meezan Bank		Profit Rate / Weightage		
Savings	1.00	0.039	0.042	0.044
TDR 3 Months (Profit at maturity)	1,000,000.00	0.039	0.042	0.044
TDR 3 Months (Profit at maturity)	3,000,000.00	0.039	0.042	0.044
TDR 3 Months (Profit at maturity)	10,000,000.00	0.039	0.042	0.044
TDR 3 Months (Profit at maturity)	25,000,000.00	0.039	0.042	0.044
TDR 3 Months (Profit at maturity)	50,000,000.00	0.039	0.042	0.044
TDR 6 Months (Profit at maturity)	1,000,000.00	0.039	0.042	0.044
TDR 6 Months (Profit at maturity)	3,000,000.00	0.039	0.042	0.044
TDR 6 Months (Profit at maturity)	10,000,000.00	0.039	0.042	0.044
TDR 6 Months (Profit at maturity)	25,000,000.00	0.039	0.042	0.044
TDR 6 Months (Profit at maturity)	50,000,000.00	0.039	0.042	0.044
TDR 1 Year (Profit at maturity)	1,000,000.00	0.039	0.042	0.044
TDR 1 Year (Profit at maturity)	3,000,000.00	0.039	0.042	0.044
TDR 1 Year (Profit at maturity)	10,000,000.00	0.039	0.042	0.044
TDR 1 Year (Profit at maturity)	25,000,000.00	0.039	0.042	0.044
TDR 1 Year (Profit at maturity)	50,000,000.00	0.039	0.042	0.044
TDR 1 Year (Monthly profit)	1,000,000.00	0.039	0.042	0.044
TDR 1 Year (Monthly profit)	3,000,000.00	0.039	0.042	0.044
TDR 1 Year (Monthly profit)	10,000,000.00	0.039	0.042	0.044
TDR 1 Year (Monthly profit)	25,000,000.00	0.039	0.042	0.044
TDR 1 Year (Monthly profit)	50,000,000.00	0.039	0.042	0.044

From the above it can be seen that Meazan Bank is using the projection mechanism for calculating weightages as the relationship between its various deposit products remain stagnant during each month but changes amongst various month.

Test 2

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18
Meezan Bank		Weightages Relationship			Profit Rates Relationship			Difference		
Savings	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-	-	-
TDR 3 Months (Profit at maturity)	1,000,000.00	1.74	1.75	1.63	1.74	1.75	1.62	0.00	(0.00)	(0.00)
TDR 3 Months (Profit at maturity)	3,000,000.00	1.84	1.84	1.71	1.84	1.84	1.71	0.01	(0.00)	(0.00)
TDR 3 Months (Profit at maturity)	10,000,000.00	1.87	1.89	1.75	1.87	1.90	1.74	0.00	0.00	(0.00)
TDR 3 Months (Profit at maturity)	25,000,000.00	1.90	1.91	1.78	1.90	1.91	1.78	0.00	0.00	(0.00)
TDR 3 Months (Profit at maturity)	50,000,000.00	1.95	1.96	1.81	1.95	1.96	1.81	0.00	(0.00)	(0.00)
TDR 6 Months (Profit at maturity)	1,000,000.00	1.95	1.96	1.81	1.95	1.96	1.81	0.00	(0.00)	(0.00)
TDR 6 Months (Profit at maturity)	3,000,000.00	2.00	2.02	1.86	2.00	2.02	1.86	0.00	(0.00)	(0.00)
TDR 6 Months (Profit at maturity)	10,000,000.00	2.00	2.02	1.86	2.00	2.02	1.86	0.00	(0.00)	(0.00)
TDR 6 Months (Profit at maturity)	25,000,000.00	2.03	2.05	1.90	2.04	2.05	1.90	0.00	(0.00)	(0.00)
TDR 6 Months (Profit at maturity)	50,000,000.00	2.05	2.07	1.92	2.05	2.07	1.91	0.00	0.00	(0.00)
TDR 1 Year (Profit at maturity)	1,000,000.00	2.11	2.12	1.97	2.12	2.12	1.96	0.01	(0.00)	(0.00)
TDR 1 Year (Profit at maturity)	3,000,000.00	2.15	2.16	2.00	2.15	2.16	2.00	0.00	0.00	(0.00)
TDR 1 Year (Profit at maturity)	10,000,000.00	2.16	2.18	2.02	2.17	2.18	2.01	0.00	(0.00)	(0.01)
TDR 1 Year (Profit at maturity)	25,000,000.00	2.20	2.23	2.05	2.20	2.23	2.05	0.00	0.00	(0.00)
TDR 1 Year (Profit at maturity)	50,000,000.00	2.21	2.23	2.07	2.22	2.23	2.07	0.00	0.00	(0.00)
TDR 1 Year (Monthly profit)	1,000,000.00	1.85	1.86	1.73	1.85	1.86	1.73	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	3,000,000.00	1.95	1.96	1.81	1.95	1.96	1.81	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	10,000,000.00	2.00	2.02	1.86	2.00	2.02	1.86	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	25,000,000.00	2.03	2.05	1.90	2.04	2.05	1.90	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	50,000,000.00	2.08	2.11	1.95	2.09	2.10	1.95	0.01	(0.00)	(0.00)

The relationship between weightages and profit rates of corresponding deposit products fetch same results with few outliers.

Dubai Islamic Bank

Test 1

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18
Dubai Islamic		Profit Rate / Weightage		
Savings Regular	1.00	0.025	0.025	0.025
Savings Regular	100,000.00	0.025	0.025	0.025
Savings Regular	500,000.00	0.025	0.025	0.025
TDR 1 Year (Monthly profit)	100,000.00	0.026	0.026	0.026
TDR 1 Year (Monthly profit)	10,000,000.00	0.026	0.026	0.026
TDR 3 Months (Profit at maturity)	100,000.00	0.025	0.025	0.025
TDR 3 Months (Profit at maturity)	1,000,000.00	0.025	0.025	0.025
TDR 3 Months (Profit at maturity)	5,000,000.00	0.025	0.025	0.025
TDR 3 Months (Profit at maturity)	10,000,000.00	0.025	0.025	0.025
TDR 6 Months (Profit atmaturity)	100,000.00	0.025	0.025	0.025
TDR 6 Months (Profit at maturity)	1,000,000.00	0.025	0.025	0.025
TDR 6 Months (Profit at maturity)	5,000,000.00	0.025	0.025	0.025
TDR 6 Months (Profit at maturity)	10,000,000.00	0.025	0.025	0.025
TDR 6 Months(Profit at maturity)	50,000,000.00	0.025	0.025	0.025
TDR 1 Year (Profit at maturity)	100,000.00	0.026	0.026	0.026
TDR 1 Year (Profit at maturity)	10,000,000.00	0.026	0.026	0.026
TDR 1 Year (Profit at maturity)	100,000,000.00	0.026	0.026	0.026

Dubai Islamic Bank Ltd is using the factorization mechanism for calculating weightages as the relationship between its various deposit products remain stagnant with few outliers due to rounding off, during each month but also remaining same amongst the various months.

Test 2

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18
Dubai Islamic		Weightages Relationship			Profit Rates Relationship			Difference		
Savings Regular	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-	-	-
Savings Regular	100,000.00	1.01	1.01	1.00	1.01	1.01	1.01	0.00	0.00	0.00
Savings Regular	500,000.00	1.01	1.01	1.01	1.01	1.01	1.01	0.00	0.00	0.00
TDR 1 Year (Monthly profit)	100,000.00	1.63	1.63	1.60	1.72	1.72	1.68	0.08	0.09	0.08
TDR 1 Year(Monthly profit)	10,000,000.00	1.74	1.74	1.69	1.83	1.83	1.78	0.09	0.10	0.09
TDR 3 Months (Profit at maturity)	100,000.00	1.50	1.50	1.48	1.50	1.50	1.48	0.00	0.00	0.00
TDR 3 Months (Profit at maturity)	1,000,000.00	1.53	1.53	1.50	1.53	1.53	1.50	0.00	0.00	(0.00)
TDR 3 Months (Profit at maturity)	5,000,000.00	1.53	1.53	1.50	1.53	1.53	1.50	0.00	0.00	(0.00)
TDR 3 Months (Profit at maturity)	10,000,000.00	1.71	1.71	1.67	1.71	1.71	1.67	0.00	0.00	0.00
TDR 6 Months (Profit at maturity)	100,000.00	1.55	1.55	1.52	1.55	1.55	1.52	0.00	0.00	0.00
TDR 6 Months (Profit at maturity)	1,000,000.00	1.58	1.58	1.55	1.58	1.58	1.55	(0.00)	0.00	(0.00)
TDR 6 Months (Profit at maturity)	5,000,000.00	1.63	1.63	1.60	1.63	1.64	1.60	(0.00)	0.00	(0.00)
TDR 6 Months(Profit at maturity)	10,000,000.00	1.74	1.74	1.70	1.73	1.74	1.69	(0.00)	0.00	(0.00)
TDR 6 Months (Profit at maturity)	50,000,000.00	1.97	1.97	1.92	1.97	1.97	1.92	0.00	0.00	0.00
TDR 1 Year (Profit at maturity)	100,000.00	1.81	1.81	1.77	1.91	1.91	1.86	0.10	0.10	0.09
TDR 1 Year (Profit at maturity)	10,000,000.00	1.92	1.92	1.87	2.02	2.02	1.96	0.10	0.11	0.10
TDR 1 Year (Profit at maturity)	100,000,000.00	1.97	1.97	1.91	2.08	2.08	2.02	0.11	0.11	0.10

The relationship between weightages and profit rates of corresponding deposit products fetch same results with few outliers, due to rounding off by DIB in profit rates.

BankIslami Pakistan Ltd

Test 1

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18
Bank Islami		Profit Rate / Weightage		
Islami Bachat Account	1.00	0.080	0.080	0.080
Islami Bachat Account	2,500,000.00	0.080	0.080	0.080
Islami Bachat Account	50,000,000.00	0.080	0.080	0.080
Islami Bachat Account	100,000,000.00	0.080	0.080	0.080
Islami Bachat Account	200,000,000.00	0.080	0.080	0.080
Islami Bachat Account	500,000,000.00	0.080	0.080	0.080
TDR 3 Months (Profit at maturity)	1.00	0.080	0.080	0.080
TDR 3 Months (Profit at maturity)	5,000,000.00	0.080	0.080	0.080
TDR 3 Months (Profit at maturity)	10,000,000.00	0.080	0.080	0.080
TDR 3 Months (Profit at maturity)	25,000,000.00	0.080	0.080	0.080
TDR 3 Months (Profit at maturity)	50,000,000.00	0.080	0.080	0.080
TDR 3 Months (Profit at maturity)	100,000,000.00	0.080	0.080	0.080
TDR 3 Months (Profit at maturity)	200,000,000.00	0.080	0.080	0.080
TDR 3 Months (Profit at maturity)	500,000,000.00	0.080	0.080	0.080
TDR 6 Months (Profit at maturity)	1.00	0.080	0.080	0.080
TDR 6 Months (Profit at maturity)	1,000,000.00	0.080	0.080	0.080
TDR 6 Months (Profit at maturity)	2,500,000.00	0.080	0.080	0.080
TDR 6 Months (Profit at maturity)	5,000,000.00	0.080	0.080	0.080
TDR 6 Months (Profit at maturity)	10,000,000.00	0.080	0.080	0.080
TDR 6 Months (Profit at maturity)	25,000,000.00	0.080	0.080	0.080
TDR 6 Months (Profit at maturity)	50,000,000.00	0.080	0.080	0.080
TDR 6 Months (Profit at maturity)	100,000,000.00	0.080	0.080	0.080
TDR 6 Months (Profit at maturity)	200,000,000.00	0.080	0.080	0.080
TDR 6 Months (Profit at maturity)	500,000,000.00	0.080	0.080	0.080
TDR 1 Year (Profit at maturity)	1.00	0.080	0.080	0.080
TDR 1 Year (Profit at maturity)	2,500,000.00	0.080	0.080	0.080
TDR 1 Year (Profit at maturity)	5,000,000.00	0.080	0.080	0.080
TDR 1 Year (Profit at maturity)	10,000,000.00	0.080	0.080	0.080
TDR 1 Year (Profit at maturity)	100,000,000.00	0.080	0.080	0.080
TDR 1 Year (Profit at maturity)	200,000,000.00	0.080	0.080	0.080
TDR 1 Year (Profit at maturity)	500,000,000.00	0.080	0.080	0.080
TDR 1 Year (Monthly profit)	1.00	0.080	0.080	0.080
TDR 1 Year (Monthly profit)	1,000,000.00	0.080	0.080	0.080
TDR 1 Year (Monthly profit)	2,500,000.00	0.080	0.080	0.080
TDR 1 Year (Monthly profit)	5,000,000.00	0.080	0.080	0.080
TDR 1 Year (Monthly profit)	10,000,000.00	0.080	0.080	0.080
TDR 1 Year (Monthly profit)	100,000,000.00	0.080	0.080	0.080
TDR 1 Year (Monthly profit)	200,000,000.00	0.080	0.080	0.080
TDR 1 Year (Monthly profit)	500,000,000.00	0.080	0.080	0.080

BankIslami Pakistan Ltd is also using the factorization mechanism for calculating weightages as the relationship between its various deposit products remain stagnant during every month i.e. they just multiply their profit rates with 0.08 to reach at the weightages.

Test 2

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18
Bank Islami		Weightages Relationship			Profit Rates Relationship			Difference		
Islami Bachat Account	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-	-	-
Islami Bachat Account	2,500,000.00	1.19	1.19	1.18	1.19	1.19	1.18	-	-	-
Islami Bachat Account	50,000,000.00	1.23	1.23	1.22	1.23	1.23	1.22	-	-	-
Islami Bachat Account	100,000,000.00	1.44	1.44	1.45	1.44	1.44	1.45	0.01	0.01	-
Islami Bachat Account	200,000,000.00	1.54	1.54	1.55	1.54	1.54	1.55	-	-	-
Islami Bachat Account	500,000,000.00	1.83	1.83	1.82	1.83	1.83	1.82	-	-	-
TDR 3 Months (Profit at maturity)	1.00	1.62	1.62	1.53	1.62	1.62	1.53	-	-	-
TDR 3 Months (Profit at maturity)	5,000,000.00	1.65	1.65	1.56	1.65	1.65	1.56	-	-	-
TDR 3Months (Profit at maturity)	10,000,000.00	1.69	1.69	1.60	1.69	1.69	1.60	-	-	-
TDR 3 Months (Profit at maturity)	25,000,000.00	1.79	1.79	1.69	1.79	1.79	1.69	-	-	-
TDR 3 Months (Profit at maturity)	50,000,000.00	1.85	1.85	1.75	1.85	1.85	1.75	-	-	-
TDR 3 Months (Profit at maturity)	100,000,000.00	2.12	2.12	2.00	2.12	2.12	2.00	-	-	-
TDR 3 Months (Profit at maturity)	200,000,000.00	2.19	2.19	2.07	2.19	2.19	2.07	-	-	-
TDR 3 Months (Profit at maturity)	500,000,000.00	2.23	2.23	2.11	2.23	2.23	2.11	-	-	-
TDR 6 Months (Profit at maturity)	1.00	1.73	1.73	1.85	1.73	1.73	1.85	-	-	-
TDR 6 Months (Profit at maturity)	1,000,000.00	1.73	1.73	1.89	1.73	1.73	1.89	-	-	-
TDR 6 Months (Profit at maturity)	2,500,000.00	1.73	1.73	1.93	1.73	1.73	1.93	-	-	-
TDR 6 Months (Profit at maturity)	5,000,000.00	1.77	1.77	1.96	1.77	1.77	1.96	-	-	-
TDR 6 Months (Profit at maturity)	10,000,000.00	1.79	1.79	1.96	1.79	1.79	1.96	-	-	-
TDR 6 Months (Profit at maturity)	25,000,000.00	1.83	1.83	1.96	1.83	1.83	1.96	-	-	-
TDR 6 Months (Profit at maturity)	50,000,000.00	1.88	1.88	1.96	1.88	1.88	1.96	-	-	-
TDR 6 Months (Profit at maturity)	100,000,000.00	2.12	2.12	2.33	2.12	2.12	2.33	-	-	-
TDR 6 Months (Profit at maturity)	200,000,000.00	2.19	2.19	2.40	2.19	2.19	2.40	-	-	-
TDR 6 Months (Profit at maturity)	500,000,000.00	2.23	2.23	2.51	2.23	2.23	2.51	-	-	-
TDR 1 Year (Profit at maturity)	1.00	2.06	2.06	1.96	2.06	2.06	1.96	-	-	-
TDR 1 Year (Profit at maturity)	2,500,000.00	2.06	2.06	2.00	2.06	2.06	2.00	-	-	-
TDR 1 Year (Profit at maturity)	5,000,000.00	2.06	2.06	2.04	2.06	2.06	2.04	-	-	-
TDR 1 Year (Profit at maturity)	10,000,000.00	2.08	2.08	2.04	2.08	2.08	2.04	-	-	-
TDR 1 Year (Profit at maturity)	100,000,000.00	2.17	2.17	2.44	2.17	2.17	2.44	-	-	0.00
TDR 1 Year (Profit at maturity)	200,000,000.00	2.21	2.21	2.55	2.21	2.21	2.55	-	-	-
TDR 1 Year (Profit at maturity)	500,000,000.00	2.27	2.27	2.64	2.27	2.27	2.64	-	-	-
TDR 1 Year (Monthly profit)	1.00	2.01	2.01	1.91	2.01	2.01	1.91	-	-	-
TDR 1Year (Monthly profit)	1,000,000.00	2.01	2.01	1.93	2.01	2.01	1.93	-	-	-
TDR 1 Year (Monthly profit)	2,500,000.00	2.01	2.01	1.96	2.01	2.01	1.96	-	-	-
TDR 1 Year (Monthly profit)	5,000,000.00	2.01	2.01	2.00	2.01	2.01	2.00	-	-	-
TDR 1 Year (Monthly profit)	10,000,000.00	2.03	2.03	2.00	2.03	2.03	2.00	-	-	-
TDR 1 Year (Monthly profit)	100,000,000.00	2.12	2.12	2.36	2.12	2.12	2.36	-	-	-
TDR 1 Year (Monthly profit)	200,000,000.00	2.15	2.15	2.45	2.15	2.15	2.45	-	-	-
TDR 1 Year (Monthly profit)	500,000,000.00	2.21	2.21	2.55	2.21	2.21	2.55	-	-	-

The relationship between weightages and profit rates of corresponding deposit products fetch same results with few exceptions, due to rounding off in profit rates.

Al Baraka Bank (Pakistan) Ltd

Test 1

Bank Name / Products	Amount	Jun-18	Jul-18
Bank Al Baraka		Profit Rate / Weightage	
Savings	1.00	12.2	12.3
TDR 3 Months (Profit at maturity)	1.00	12.2	12.3
TDR 3 Months (Profit at maturity)	5,000,000.00	12.2	12.3
TDR 3 Months(Profit at maturity)	10,000,000.00	12.2	12.3
TDR 3 Months (Profit at maturity)	15,000,000.00	12.2	12.3
TDR 3 Months (Profit at maturity)	50,000,000.00	12.2	12.3
TDR 3 Months (Profit at maturity)	100,000,000.00	12.2	12.3
TDR 3 Months (Profit atmaturity)	200,000,000.00	12.2	12.3
TDR 3 Months (Profit at maturity)	300,000,000.00	12.2	12.3
TDR 3 Months (Profit at maturity)	400,000,000.00	12.2	12.3
TDR 3 Months (Profit at maturity)	500,000,000.00	12.2	12.3
TDR 3 Months (Profit at maturity)	1,000,000,000.00	12.2	12.3
TDR 3 Months (Profit at maturity)	1,500,000,000.00	12.2	12.3
TDR 6 Months (Profit at maturity)	1.00	12.2	12.3
TDR 6 Months (Profit at maturity)	5,000,000.00	12.2	12.3
TDR 6 Months (Profit at maturity)	10,000,000.00	12.2	12.3
TDR 6 Months (Profit at maturity)	15,000,000.00	12.2	12.3
TDR 6 Months (Profit at maturity)	50,000,000.00	12.2	12.3
TDR 6 Months (Profit at maturity)	100,000,000.00	12.2	12.3
TDR 6 Months (Profit at maturity)	200,000,000.00	12.2	12.3
TDR 6 Months(Profit at maturity)	500,000,000.00	12.2	12.3
TDR 6 Months (Profit at maturity)	1,000,000,000.00	12.2	12.3
TDR 6 Months (Profit at maturity)	1,500,000,000.00	12.2	12.3
TDR 1 Year (Monthly profit)	1.00	12.2	12.3
TDR 1 Year (Monthly profit)	5,000,000.00	12.2	12.3
TDR 1 Year (Monthly profit)	10,000,000.00	12.2	12.3
TDR 1 Year (Monthly profit)	15,000,000.00	12.2	12.3
TDR 1 Year (Monthly profit)	30,000,000.00	12.2	12.3
TDR 1 Year (Monthly profit)	50,000,000.00	12.2	12.3
TDR 1 Year (Monthly profit)	100,000,000.00	12.2	12.3
TDR 1 Year (Monthly profit)	200,000,000.00	12.2	12.3
TDR 1 Year (Monthly profit)	500,000,000.00	12.2	12.3
TDR 1 Year (Profit at maturity)	1.00	12.2	12.3
TDR 1 Year (Profit at maturity)	5,000,000.00	12.2	12.3
TDR 1 Year (Profit at maturity)	10,000,000.00	12.2	12.3
TDR 1 Year (Profit at maturity)	15,000,000.00	12.2	12.3
TDR 1 Year (Profit at maturity)	50,000,000.00	12.2	12.3
TDR 1 Year (Profit at maturity)	100,000,000.00	12.2	12.3
TDR 1 Year (Profit at maturity)	200,000,000.00	12.2	12.3
TDR 1 Year (Profit at maturity)	500,000,000.00	12.2	12.3
TDR 1 Year (Profit at maturity)	1,000,000,000.00	12.2	12.3
TDR 1 Year (Profit at maturity)	1,500,000,000.00	12.2	12.3

Bank Al Baraka is using the projection mechanism for calculating weightages as is evident from the profit : weightage relationship between its various deposit products, which remain stagnant during each month but changes amongst various month.

Test 2

Bank Name / Products	Amount	Jun-18	Jul-18	Jun-18	Jul-18	Jun-18	Jul-18
Bank Al Baraka		Weightages Relationship		Profit Rates Relationship		Difference	
Savings	1.00	1.00	1.00	1.00	1.00	-	-
TDR 3 Months (Profit at maturity)	1.00	1.61	1.61	1.61	1.61	(0.00)	0.00
TDR 3 Months (Profit at maturity)	5,000,000.00	1.65	1.65	1.65	1.65	(0.00)	0.00
TDR 3 Months (Profit at maturity)	10,000,000.00	1.69	1.69	1.69	1.69	(0.00)	0.00
TDR 3 Months (Profit at maturity)	15,000,000.00	1.72	1.72	1.72	1.72	(0.00)	0.00
TDR 3 Months (Profit at maturity)	50,000,000.00	2.05	2.05	2.05	2.05	(0.00)	0.00
TDR 3 Months (Profit at maturity)	100,000,000.00	2.24	2.24	2.24	2.24	(0.00)	0.00
TDR 3 Months (Profit at maturity)	200,000,000.00	2.26	2.26	2.26	2.26	(0.00)	0.00
TDR 3 Months (Profit at maturity)	300,000,000.00	2.28	2.28	2.28	2.28	(0.00)	0.00
TDR 3 Months (Profit at maturity)	400,000,000.00	2.28	2.28	2.28	2.28	(0.00)	0.00
TDR 3 Months (Profit at maturity)	500,000,000.00	2.36	2.39	2.36	2.39	(0.00)	0.00
TDR 3 Months (Profit at maturity)	1,000,000,000.00	2.34	2.34	2.34	2.34	(0.00)	0.00
TDR 3 Months (Profit at maturity)	1,500,000,000.00	2.34	2.34	2.34	2.34	(0.00)	0.00
TDR 6 Months (Profit at maturity)	1.00	1.69	1.69	1.69	1.69	(0.00)	0.00
TDR 6 Months (Profit at maturity)	5,000,000.00	1.74	1.74	1.74	1.74	(0.00)	0.00
TDR 6 Months (Profit at maturity)	10,000,000.00	1.76	1.76	1.76	1.76	(0.00)	(0.00)
TDR 6 Months (Profit at maturity)	15,000,000.00	1.82	1.82	1.82	1.82	(0.00)	0.00
TDR 6 Months (Profit at maturity)	50,000,000.00	1.88	1.88	1.88	1.88	(0.00)	0.00
TDR 6 Months (Profit at maturity)	100,000,000.00	2.18	2.18	2.18	2.18	(0.00)	0.00
TDR 6 Months (Profit at maturity)	200,000,000.00	2.24	2.24	2.24	2.24	(0.00)	0.00
TDR 6 Months (Profit at maturity)	500,000,000.00	2.26	2.36	2.26	2.36	(0.00)	0.00
TDR 6 Months (Profit at maturity)	1,000,000,000.00	2.32	2.39	2.32	2.39	(0.00)	0.00
TDR 6 Months (Profit at maturity)	1,500,000,000.00	2.30	2.45	2.30	2.45	(0.00)	0.00
TDR 1 Year (Monthly profit)	1.00	1.90	1.90	1.90	1.90	(0.00)	0.00
TDR 1 Year (Monthly profit)	5,000,000.00	1.92	1.92	1.92	1.92	(0.00)	0.00
TDR 1 Year (Monthly profit)	10,000,000.00	1.95	1.95	1.95	1.95	(0.00)	0.00
TDR 1 Year (Monthly profit)	15,000,000.00	1.97	1.97	1.97	1.97	(0.00)	0.00
TDR 1 Year (Monthly profit)	30,000,000.00	1.99	1.99	1.99	1.99	(0.00)	0.00
TDR 1 Year (Monthly profit)	50,000,000.00	2.05	2.05	2.05	2.05	(0.00)	0.00
TDR 1 Year (Monthly profit)	100,000,000.00	2.15	2.22	2.15	2.22	(0.00)	0.00
TDR 1 Year (Monthly profit)	200,000,000.00	2.17	2.30	2.16	2.30	(0.00)	0.00
TDR 1 Year (Monthly profit)	500,000,000.00	2.28	2.39	2.28	2.39	(0.00)	0.00
TDR 1 Year (Profit at maturity)	1.00	2.03	2.03	2.03	2.03	(0.00)	0.00
TDR 1 Year (Profit at maturity)	5,000,000.00	2.03	2.03	2.03	2.03	(0.00)	0.00
TDR 1 Year (Profit at maturity)	10,000,000.00	2.05	2.05	2.05	2.05	(0.00)	0.00
TDR 1 Year (Profit at maturity)	15,000,000.00	2.05	2.05	2.05	2.05	(0.00)	0.00
TDR 1 Year (Profit at maturity)	50,000,000.00	2.05	2.05	2.05	2.05	(0.00)	0.00
TDR 1 Year (Profit at maturity)	100,000,000.00	2.18	2.18	2.18	2.18	(0.00)	0.00
TDR 1 Year (Profit at maturity)	200,000,000.00	2.30	2.43	2.30	2.43	(0.00)	0.00
TDR 1 Year (Profit at maturity)	500,000,000.00	2.41	2.49	2.41	2.49	(0.00)	0.00
TDR 1 Year (Profit at maturity)	1,000,000,000.00	2.47	2.57	2.47	2.57	(0.00)	0.00
TDR 1 Year (Profit at maturity)	1,500,000,000.00	2.47	2.59	2.47	2.59	(0.00)	0.00

The relationship between weightages and profit rates of corresponding deposit products fetch same results showing weightages are just a replica of profit rates, as treated by Bank Al Baraka.

MCB Islamic Bank Ltd

Test 1

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18
MCB Islamic		Profit Rate / Weightage		
Hifazat Plus Saving Deposit 3	1.00	0.12	0.12	0.13
Hifazat Plus Saving Deposit 3	500,000,000.00	0.12	0.12	0.13
TDR 3 Months (Monthly profit)	500,000.00	0.12	0.12	0.13
TDR 3 Months (Profit at maturity)	1.00	0.12	0.12	0.13
TDR 3 Months(Profit at maturity)	25,000.00	0.12	0.12	0.13
TDR 3 Months (Profit at maturity)	100,000.00	0.12	0.12	0.13
TDR 3 Months (Profit at maturity)	500,000.00	0.12	0.12	0.13
TDR 3 Months (Profit at maturity)	1,000,000.00	0.12	0.12	0.13
TDR 3 Months (Profit atmaturity)	5,000,000.00	0.12	0.12	0.13
TDR 3 Months (Profit at maturity)	40,000,000.00	0.12	0.12	0.13
TDR 3 Months (Profit at maturity)	100,000,000.00	0.12	0.12	0.13
TDR 3 Months (Profit at maturity)	250,000,000.00	0.12	0.12	0.13
TDR 6 Months (Monthlyprofit)	100,000.00	0.12	0.12	0.13
TDR 6 Months (Monthly profit)	500,000.00	0.12	0.12	0.13
TDR 6 Months (Monthly profit)	5,000,000.00	0.12	0.12	0.13
TDR 6 Months (Profit at maturity)	1.00	0.12	0.12	0.13
TDR 6 Months (Profit at maturity)	25,000.00	0.12	0.12	0.13
TDR 6 Months (Profit at maturity)	100,000.00	0.12	0.12	0.13
TDR 6 Months (Profit at maturity)	500,000.00	0.12	0.12	0.13
TDR 6 Months (Profit at maturity)	1,000,000.00	0.12	0.12	0.13
TDR 6 Months (Profit at maturity)	5,000,000.00	0.12	0.12	0.13
TDR 6 Months (Profit at maturity)	10,000,000.00	0.12	0.12	0.13
TDR 6 Months (Profit at maturity)	40,000,000.00	0.12	0.12	0.13
TDR 6 Months (Profit at maturity)	100,000,000.00	0.12	0.12	0.13

The projection mechanism is being used by MCB Islamic Bank for calculating weightages as the relationship between its various deposit products remain constant during each month but changes amongst various month.

Test 2

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18
MCB Islamic		Weightages Relationship			Profit Rates Relationship			Difference		
Hifazat Plus Saving Deposit 3	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-	-	-
Hifazat Plus Saving Deposit 3	500,000,000.00	1.15	1.16	1.16	1.15	1.16	1.16	(0.00)	(0.00)	0.00
TDR 3 Months (Monthly profit)	500,000.00	0.81	0.81	0.81	0.81	0.81	0.81	(0.00)	(0.00)	0.00
TDR 3 Months (Profit at maturity)	1.00	0.81	0.81	0.81	0.80	0.81	0.81	(0.00)	(0.00)	0.00
TDR 3 Months (Profit at maturity)	25,000.00	0.81	0.81	0.81	0.81	0.81	0.81	(0.00)	0.00	0.00
TDR 3 Months (Profit at maturity)	100,000.00	0.81	0.81	0.81	0.81	0.81	0.81	(0.00)	0.00	0.00
TDR 3 Months (Profit at maturity)	500,000.00	0.81	0.81	0.81	0.81	0.81	0.81	(0.00)	(0.00)	0.00
TDR 3 Months (Profit at maturity)	1,000,000.00	0.82	0.82	0.82	0.81	0.82	0.82	(0.00)	(0.00)	0.00
TDR 3 Months (Profit at maturity)	5,000,000.00	0.82	0.82	0.82	0.82	0.82	0.82	(0.00)	(0.00)	0.00
TDR 3 Months (Profit at maturity)	40,000,000.00	0.83	0.83	0.83	0.82	0.83	0.83	(0.00)	(0.00)	0.00
TDR 3 Months (Profit at maturity)	100,000,000.00	1.10	1.10	1.10	1.09	1.10	1.10	(0.01)	0.00	(0.00)
TDR 3 Months (Profit at maturity)	250,000,000.00	1.23	1.23	1.46	1.22	1.23	1.46	(0.01)	(0.00)	(0.00)
TDR 6 Months (Monthly profit)	100,000.00	0.81	0.81	0.81	0.81	0.81	0.81	(0.00)	0.00	(0.00)
TDR 6 Months (Monthly profit)	500,000.00	0.81	0.81	0.81	0.81	0.81	0.81	(0.00)	0.00	0.00
TDR 6 Months (Monthly profit)	5,000,000.00	0.82	0.82	0.82	0.82	0.82	0.82	(0.00)	(0.00)	0.00
TDR 6Months (Profit at maturity)	1.00	0.82	0.82	0.82	0.82	0.82	0.82	(0.00)	0.00	0.00
TDR 6 Months (Profit at maturity)	25,000.00	0.82	0.82	0.82	0.82	0.82	0.82	(0.00)	(0.00)	0.00
TDR 6 Months (Profit at maturity)	100,000.00	0.82	0.82	0.82	0.82	0.82	0.82	(0.00)	(0.00)	0.00
TDR 6 Months (Profit at maturity)	500,000.00	0.83	0.83	0.83	0.82	0.83	0.83	(0.00)	0.00	0.00
TDR 6 Months (Profit at maturity)	1,000,000.00	0.83	0.83	0.83	0.82	0.83	0.83	(0.00)	(0.00)	(0.00)
TDR 6 Months (Profit at maturity)	5,000,000.00	0.83	0.83	0.83	0.83	0.83	0.83	(0.00)	(0.00)	0.00
TDR 6 Months (Profit at maturity)	10,000,000.00	0.83	0.83	0.83	0.83	0.83	0.83	(0.00)	(0.00)	(0.00)
TDR 6 Months (Profit at maturity)	40,000,000.00	0.84	0.84	0.84	0.84	0.84	0.84	(0.00)	(0.00)	0.00
TDR 6 Months (Profit at maturity)	100,000,000.00	1.01	1.01	1.00	1.01	1.01	1.01	(0.00)	(0.00)	0.01

The relationship between weightages and profit rates of corresponding deposit products of MCB Islamic Bank Ltd fetch same results with few outliers having variation of less than 1%.

National Bank of Pakistan – Aitemaad Islamic

Test 1

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18
NBP		Profit Rate / Weightage		
Savings	1.00	0.037	0.037	0.040
Savings	25,000,000.00	0.037	0.037	0.040
Savings	50,000,000.00	0.037	0.037	0.040
Savings	100,000,000.00	0.037	0.037	0.040
Savings	250,000,000.00	0.037	0.037	0.040
Savings	500,000,000.00	0.037	0.037	0.040
Savings	1,000,000,000.00	0.037	0.037	0.040
TDR 3 Months (Monthly profit)	1.00	0.037	0.037	0.040
TDR 3 Months (Monthly profit)	1,000,000.00	0.037	0.037	0.040
TDR 3 Months (Monthly profit)	10,000,000.00	0.037	0.037	0.040
TDR 6 Months (Monthly profit)	1.00	0.037	0.037	0.040
TDR 6 Months (Monthly profit)	1,000,000.00	0.037	0.037	0.040
TDR 6 Months (Monthly profit)	10,000,000.00	0.037	0.037	0.040
TDR 1 Year (Monthly profit)	1.00	0.037	0.037	0.040
TDR 1 Year (Monthly profit)	1,000,000.00	0.037	0.037	0.040
TDR 1 Year (Monthly profit)	10,000,000.00	0.037	0.037	0.040
TDR 3 Months (Profit at maturity)	1.00	0.037	0.037	0.040
TDR 3 Months (Profit at maturity)	10,000,000.00	0.037	0.037	0.040
TDR 3 Months (Profit at maturity)	50,000,000.00	0.037	0.037	0.040
TDR 3 Months (Profit at maturity)	100,000,000.00	0.037	0.037	0.040
TDR 6 Months (Profit at maturity)	1.00	0.037	0.037	0.040
TDR 6 Months (Profit at maturity)	10,000,000.00	0.037	0.037	0.040
TDR 6 Months (Profit at maturity)	50,000,000.00	0.037	0.037	0.040
TDR 6 Months (Profit at maturity)	100,000,000.00	0.037	0.037	0.040
TDR 1 Year (Profit at maturity)	1.00	0.037	0.037	0.040
TDR 1 Year (Profit at maturity)	10,000,000.00	0.037	0.037	0.040
TDR 1 Year (Profit at maturity)	50,000,000.00	0.037	0.037	0.040
TDR 1 Year (Profit at maturity)	100,000,000.00	0.037	0.037	0.040

The projection methodology is used by NBP for calculating weightages as the profit / weightage remain perpetual during each month but changes from one month to other.

Test 2

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18
NBP		Weightages Relationship			Profit Rates Relationship			Difference		
Savings	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-	-	-
Savings	25,000,000.00	1.04	1.04	1.04	1.04	1.04	1.04	0.00	(0.00)	(0.00)
Savings	50,000,000.00	1.12	1.12	1.12	1.12	1.12	1.12	0.00	0.00	(0.00)
Savings	100,000,000.00	1.22	1.22	1.22	1.22	1.22	1.22	(0.00)	(0.00)	(0.00)
Savings	250,000,000.00	1.31	1.31	1.31	1.31	1.31	1.31	(0.00)	0.00	0.00
Savings	500,000,000.00	1.41	1.41	1.41	1.41	1.41	1.41	0.00	(0.00)	(0.00)
Savings	1,000,000,000.00	1.51	1.51	1.51	1.51	1.51	1.51	0.00	(0.00)	(0.00)
TDR 3 Months (Monthly profit)	1.00	1.51	1.71	1.71	1.51	1.71	1.70	(0.00)	(0.00)	(0.01)
TDR 3 Months (Monthly profit)	1,000,000.00	1.78	1.98	1.98	1.78	1.98	1.97	(0.00)	(0.00)	(0.00)
TDR 3 Months (Monthly profit)	10,000,000.00	1.89	2.08	2.08	1.89	2.08	2.08	0.00	(0.00)	(0.00)
TDR6 Months (Monthly profit)	1.00	1.60	1.80	1.80	1.60	1.80	1.80	0.00	-	(0.00)
TDR 6 Months (Monthly profit)	1,000,000.00	1.89	2.08	2.08	1.89	2.08	2.08	0.00	(0.00)	(0.00)
TDR 6 Months (Monthly profit)	10,000,000.00	2.00	2.20	2.20	2.00	2.20	2.19	-	0.00	(0.00)
TDR 1 Year (Monthly profit)	1.00	1.70	1.89	1.89	1.70	1.89	1.89	(0.00)	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	1,000,000.00	2.00	2.20	2.20	2.00	2.20	2.19	-	0.00	(0.00)
TDR 1 Year (Monthly profit)	10,000,000.00	2.02	2.22	2.22	2.02	2.22	2.21	0.00	(0.00)	(0.00)
TDR 3 Months (Profit at maturity)	1.00	2.00	2.20	2.20	2.00	2.20	2.20	0.00	-	(0.00)
TDR 3 Months (Profit at maturity)	10,000,000.00	2.03	2.22	2.22	2.03	2.22	2.22	0.00	(0.00)	(0.00)
TDR 3 Months (Profit at maturity)	50,000,000.00	2.05	2.24	2.24	2.05	2.24	2.24	0.00	(0.00)	(0.00)
TDR 3 Months (Profit at maturity)	100,000,000.00	2.06	2.26	2.26	2.06	2.26	2.26	0.00	0.00	(0.00)
TDR 6 Months (Profit at maturity)	1.00	2.02	2.22	2.22	2.02	2.22	2.22	0.00	(0.00)	(0.00)
TDR 6 Months(Profit at maturity)	10,000,000.00	2.05	2.24	2.24	2.05	2.24	2.24	0.00	(0.00)	(0.00)
TDR 6 Months (Profit at maturity)	50,000,000.00	2.07	2.27	2.27	2.07	2.27	2.26	0.00	-	(0.00)
TDR 6 Months (Profit at maturity)	100,000,000.00	2.08	2.27	2.27	2.08	2.27	2.27	0.00	(0.00)	(0.00)
TDR 1 Year (Profit at maturity)	1.00	2.04	2.24	2.24	2.04	2.24	2.24	0.00	(0.00)	(0.00)
TDR 1 Year (Profit at maturity)	10,000,000.00	2.07	2.26	2.26	2.07	2.26	2.26	-	0.00	(0.00)
TDR 1 Year (Profit at maturity)	50,000,000.00	2.09	2.29	2.29	2.09	2.29	2.28	0.00	(0.00)	(0.00)
TDR 1 Year (Profit at maturity)	100,000,000.00	2.18	2.37	2.37	2.18	2.37	2.37	0.00	(0.00)	(0.00)

The relationship between weightages and profit rates of corresponding deposit products of NBP fetches same results in all three months.

Habib Bank Ltd – Islamic Banking

Test 1

Bank Name / Products	Amount	Jun-18	Jul-18
HBL		Profit Rate / Weightage	
AHtrifa Account	1.00	0.129	0.127
AHtrifa Account	500,000.00	0.129	0.127
AHtrifa Account	1,000,000.00	0.129	0.127
AHtrifa Account	5,000,000.00	0.129	0.127
AHtrifa Account	25,000,000.00	0.129	0.127
AHtrifa Account	50,000,000.00	0.129	0.127
AHtrifa Account	100,000,000.00	0.129	0.127
AHtrifa Account	250,000,000.00	0.129	0.127
AHtrifa Account	500,000,000.00	0.129	0.127
AHtrifa Account	1,000,000,000.00	0.129	0.126
TDR 1 Month (Profit at maturity)	1.00	0.129	0.127
TDR 3 Months (Profit at maturity)	1.00	0.129	0.127
TDR 6 Months (Profit at maturity)	1.00	0.129	0.127
TDR 1 Year (Profit at maturity)	1.00	0.129	0.127
TDR 3 Year (Profit at maturity)	1.00	0.129	0.127
TDR 5 Year (Profit at maturity)	1.00	0.129	0.127
TDR 1 Year (Monthly profit)	1.00	0.129	0.127
TDR 3 Year (Monthly profit)	1.00	0.129	0.127
TDR 5 Yea(Monthly profit)	1.00	0.129	0.127

Only two months data was available for HBL as it has yet to declare rates for month of August 2018. However, the results show that HBL is using projection methodology for weightages calculation as weightage / profit ratio between deposit products is same in each month.

Test 2

Bank Name / Products	Amount	Jun-18	Jul-18	Jun-18	Jul-18	Jun-18	Jul-18
HBL		Weightages Relationship		Profit Rates Relationship		Difference	
AHtrifa Account	1.00	1.00	1.00	1.00	1.00	-	-
AHtrifa Account	500,000.00	1.03	1.03	1.03	1.03	(0.00)	0.00
AHtrifa Account	1,000,000.00	1.13	1.13	1.13	1.13	0.00	0.00
AHtrifa Account	5,000,000.00	1.15	1.15	1.15	1.15	(0.00)	0.00
AHtrifa Account	25,000,000.00	1.16	1.16	1.16	1.16	(0.00)	(0.00)
AHtrifa Account	50,000,000.00	1.17	1.17	1.17	1.17	(0.00)	(0.00)
AHtrifa Account	100,000,000.00	1.18	1.18	1.18	1.18	(0.00)	0.00
AHtrifa Account	250,000,000.00	1.18	1.18	1.18	1.18	(0.00)	0.00
AHtrifa Account	500,000,000.00	1.19	1.19	1.19	1.19	(0.00)	(0.00)
AHtrifa Account	1,000,000,000.00	1.20	1.20	1.20	1.19	(0.00)	(0.01)
TDR 1 Month (Profit at maturity)	1.00	1.23	1.23	1.23	1.23	(0.00)	0.00
TDR 3 Months (Profit at maturity)	1.00	1.26	1.26	1.26	1.26	(0.00)	(0.00)
TDR 6 Months (Profit at maturity)	1.00	1.32	1.32	1.32	1.32	0.00	0.00
TDR 1 Year (Profit at maturity)	1.00	1.46	1.46	1.46	1.46	(0.00)	(0.00)
TDR 3 Year (Profit at maturity)	1.00	1.61	1.61	1.61	1.61	(0.00)	(0.00)
TDR 5 Year (Profit at maturity)	1.00	1.76	1.76	1.76	1.76	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	1.00	1.33	1.33	1.33	1.33	(0.00)	(0.00)
TDR 3 Year (Monthly profit)	1.00	1.45	1.45	1.45	1.45	(0.00)	(0.00)
TDR 5 Year (Monthly profit)	1.00	1.35	1.35	1.35	1.35	(0.00)	(0.00)

The ratio between weightages and profit rates of corresponding deposit products fetches same results in the corresponding months with only one outlier, due to rounding off in profit rates.

UBL Ameen

Test 1

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18
UBL Ameen		Profit Rate / Weightage		
Ameen Saving Account	1.00	0.08	0.08	0.08
Ameen Saving Account	10,000.00	0.08	0.08	0.08
Ameen Saving Account	10,000,000.00	0.08	0.08	0.08
Ameen Saving Account	50,000,000.00	0.08	0.08	0.08
Ameen Saving Account	100,000,000.00	0.08	0.08	0.08
Ameen Saving Account	500,000,000.00	0.08	0.08	0.08
TDR 1 Year (Monthly profit)	50,000.00	0.08	0.08	0.08
TDR 1 Year (Monthly profit)	500,000.00	0.08	0.08	0.08
TDR 1 Year (Monthly profit)	1,000,000.00	0.08	0.08	0.08
TDR 1 Year (Monthly profit)	2,500,000.00	0.08	0.08	0.08
TDR 2 Years (Monthly profit)	50,000.00	0.08	0.08	0.08
TDR 2 Years (Monthly profit)	500,000.00	0.08	0.08	0.08
TDR 2 Years (Monthly profit)	1,000,000.00	0.08	0.08	0.08
TDR 2 Years (Monthly profit)	2,500,000.00	0.08	0.08	0.08
TDR 3 Months (Profit at maturity)	10,000.00	0.08	0.08	0.08
TDR 3 Months (Profit at maturity)	250,000.00	0.08	0.08	0.08
TDR 3 Months (Profit at maturity)	500,000.00	0.08	0.08	0.08
TDR 3 Months (Profit at maturity)	1,000,000.00	0.08	0.08	0.08
TDR 3 Months (Profit at maturity)	2,500,000.00	0.08	0.08	0.08
TDR 6 Months (Profit at maturity)	10,000.00	0.08	0.08	0.08
TDR 6 Months (Profit at maturity)	250,000.00	0.08	0.08	0.08
TDR 6 Months (Profit at maturity)	500,000.00	0.08	0.08	0.08
TDR 6 Months (Profit at maturity)	1,000,000.00	0.08	0.08	0.08
TDR 6 Months (Profit at maturity)	2,500,000.00	0.08	0.08	0.08
TDR 1 Year (Profit at maturity)	10,000.00	0.08	0.08	0.08
TDR 1 Year (Profit at maturity)	250,000.00	0.08	0.08	0.08
TDR 1 Year (Profit at maturity)	500,000.00	0.08	0.08	0.08
TDR 1 Year (Profit at maturity)	1,000,000.00	0.08	0.08	0.08
TDR 1 Year (Profit at maturity)	2,500,000.00	0.08	0.08	0.08

UBL Ameen is using the factorization mechanism for calculating weightages as the relationship between its various deposits products remain stagnant during every month i.e. they just multiply their profit rates with 0.08 to reach at the weightages.

Test 2

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug 18	Jun-18	Jul-18	Aug-18
UBL Ameen		Weightages Relationship			Profit Rates Relationship			Difference		
Ameen Saving Account	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-	-	-
Ameen Saving Account	10,000.00	1.02	1.02	1.02	1.02	1.02	1.02	-	-	0.00
Ameen Saving Account	10,000,000.00	1.03	1.03	1.03	1.03	1.03	1.03	-	-	0.00
Ameen Saving Account	50,000,000.00	1.09	1.09	1.08	1.09	1.09	1.08	-	-	0.00
Ameen Saving Account	100,000,000.00	1.10	1.10	1.08	1.09	1.09	1.08	(0.02)	(0.02)	0.00
Ameen Saving Account	500,000,000.00	1.12	1.12	1.11	1.12	1.12	1.11	-	-	0.00
TDR 1 Year (Monthly profit)	50,000.00	1.36	1.36	1.33	1.36	1.36	1.33	-	-	0.00
TDR 1 Year (Monthly profit)	500,000.00	1.40	1.40	1.37	1.40	1.40	1.37	-	-	0.00
TDR 1 Year (Monthly profit)	1,000,000.00	1.43	1.43	1.40	1.43	1.43	1.40	-	-	0.00
TDR 1 Year (Monthly profit)	2,500,000.00	1.47	1.47	1.43	1.47	1.47	1.43	-	-	0.00
TDR 2 Years (Monthly profit)	50,000.00	1.38	1.38	1.35	1.38	1.38	1.35	-	-	0.00
TDR 2 Years (Monthly profit)	500,000.00	1.41	1.41	1.38	1.41	1.41	1.38	-	-	0.00
TDR 2 Years (Monthly profit)	1,000,000.00	1.45	1.45	1.41	1.45	1.45	1.41	-	-	0.00
TDR 2 Years (Monthly profit)	2,500,000.00	1.48	1.48	1.44	1.48	1.48	1.44	-	-	0.00
TDR 3 Months (Profit at maturity)	10,000.00	1.36	1.36	1.33	1.36	1.36	1.33	-	-	0.00
TDR 3 Months (Profit at maturity)	250,000.00	1.40	1.40	1.37	1.40	1.40	1.37	-	-	0.00
TDR 3 Months (Profit at maturity)	500,000.00	1.43	1.43	1.40	1.43	1.43	1.40	-	-	0.00
TDR 3 Months (Profit at maturity)	1,000,000.00	1.45	1.45	1.41	1.45	1.45	1.41	-	-	0.00
TDR 3 Months (Profit at maturity)	2,500,000.00	1.47	1.47	1.43	1.47	1.47	1.43	-	-	0.00
TDR 6 Months (Profit at maturity)	10,000.00	1.38	1.38	1.35	1.38	1.38	1.35	-	-	0.00
TDR 6 Months (Profit at maturity)	250,000.00	1.41	1.41	1.38	1.41	1.41	1.38	-	-	0.00
TDR 6 Months (Profit at maturity)	500,000.00	1.45	1.45	1.41	1.45	1.45	1.41	-	-	0.00
TDR 6 Months (Profit at maturity)	1,000,000.00	1.47	1.47	1.43	1.47	1.47	1.43	-	-	0.00
TDR 6 Months (Profit at maturity)	2,500,000.00	1.48	1.48	1.44	1.48	1.48	1.44	-	-	0.00
TDR 1 Year (Profit at maturity)	10,000.00	1.40	1.40	1.37	1.40	1.40	1.37	-	-	0.00
TDR 1 Year (Profit at maturity)	250,000.00	1.43	1.43	1.40	1.43	1.43	1.40	-	-	0.00
TDR 1 Year (Profit at maturity)	500,000.00	1.47	1.47	1.43	1.47	1.47	1.43	-	-	0.00
TDR 1 Year (Profit at maturity)	1,000,000.00	1.48	1.48	1.44	1.48	1.48	1.44	-	-	0.00
TDR 1 Year (Profit at maturity)	2,500,000.00	1.48	1.48	1.44	1.48	1.48	1.44	-	-	0.00

The relationship between weightages and profit rates of corresponding deposit products is fetch same results i.e. weightages are just a replica of profit rates, as treated by UBL Ameen.

Bank Al Habib Ltd – Islamic Banking

Test 1

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18
Bank AlHabib		Profit Rate / Weightage		
Mahana Amadni Savings	1.00	0.06	0.06	0.06
Mahana Amadni Savings	50,000.00	0.06	0.06	0.06
Mahana Amadni Savings	10,000,000.00	0.06	0.06	0.06
Mahana Amadni Savings	25,000,000.00	0.06	0.06	0.06
Mahana Amadni Savings	50,000,000.00	0.06	0.06	0.06
Mahana Amadni Savings	200,000,000.00	0.06	0.06	0.06
TDR 3 Months (Monthly profit)	1.00	0.06	0.06	0.06
TDR 3 Months (Monthly profit)	10,000,000.00	0.06	0.06	0.06
TDR 3 Months (Monthly profit)	25,000,000.00	0.06	0.06	0.06
TDR 3 Months (Monthly profit)	50,000,000.00	0.06	0.06	0.06
TDR 3 Months (Monthly profit)	100,000,000.00	0.06	0.06	0.06
TDR 6 Months (Monthly profit)	1.00	0.06	0.06	0.06
TDR 6 Months (Monthly profit)	10,000,000.00	0.06	0.06	0.06
TDR 6 Months (Monthly profit)	25,000,000.00	0.06	0.06	0.06
TDR 6 Months (Monthly profit)	50,000,000.00	0.06	0.06	0.06
TDR 6 Months (Monthly profit)	100,000,000.00	0.06	0.06	0.06
TDR 1 Year (Monthly profit)	1.00	0.06	0.06	0.06
TDR 1 Year (Monthly profit)	10,000,000.00	0.06	0.06	0.06
TDR 1 Year (Monthly profit)	25,000,000.00	0.06	0.06	0.06
TDR 1 Year (Monthly profit)	50,000,000.00	0.06	0.06	0.06
TDR 1 Year (Monthly profit)	100,000,000.00	0.06	0.06	0.06
TDR 1 Year (Profit at maturity)	1.00	0.06	0.06	0.06
TDR 1 Year (Profit at maturity)	10,000,000.00	0.06	0.06	0.06
TDR 1 Year (Profit at maturity)	25,000,000.00	0.06	0.06	0.06
TDR 1 Year (Profit at maturity)	50,000,000.00	0.06	0.06	0.06
TDR 1 Year (Profit at maturity)	100,000,000.00	0.06	0.06	0.06

Bank Al Habib Ltd is also using the factorization mechanism for calculating weightages as the relationship between its various deposits products remain stagnant during every month i.e. they just multiply their profit rates with 0.06 to reach at the weightages.

Test 2

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18
Bank AlHabib		Weightages Relationship			Profit Rates Relationship			Difference		
Mahana Amadni Savings	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-	-	-
Mahana Amadni Savings	50,000.00	1.02	1.04	1.04	1.02	1.04	1.04	0.00	(0.00)	(0.00)
Mahana Amadni Savings	10,000,000.00	1.06	1.07	1.07	1.06	1.07	1.07	0.00	(0.00)	(0.00)
Mahana Amadni Savings	25,000,000.00	1.08	1.10	1.10	1.08	1.10	1.10	0.00	(0.00)	(0.00)
Mahana Amadni Savings	50,000,000.00	1.17	1.13	1.13	1.17	1.13	1.13	0.00	(0.00)	(0.00)
Mahana Amadni Savings	200,000,000.00	1.33	1.27	1.27	1.33	1.27	1.27	0.00	(0.00)	(0.00)
TDR 3 Months (Monthly profit)	1.00	1.44	1.37	1.37	1.44	1.37	1.37	0.00	(0.00)	(0.00)
TDR 3 Months (Monthly profit)	10,000,000.00	1.45	1.39	1.39	1.45	1.39	1.39	0.00	(0.00)	(0.00)
TDR 3 Months (Monthly profit)	25,000,000.00	1.47	1.40	1.40	1.47	1.40	1.40	0.00	(0.00)	(0.00)
TDR 3 Months (Monthly profit)	50,000,000.00	1.48	1.42	1.42	1.49	1.42	1.42	0.00	(0.00)	(0.00)
TDR 3 Months (Monthly profit)	100,000,000.00	1.52	1.45	1.45	1.52	1.45	1.45	0.00	(0.00)	(0.00)
TDR 6 Months (Monthly profit)	1.00	1.48	1.42	1.42	1.49	1.42	1.42	0.00	(0.00)	(0.00)
TDR 6 Months (Monthly profit)	10,000,000.00	1.50	1.43	1.43	1.50	1.43	1.43	0.00	(0.00)	(0.00)
TDR 6 Months (Monthly profit)	25,000,000.00	1.52	1.45	1.45	1.52	1.45	1.45	0.00	(0.00)	(0.00)
TDR 6 Months (Monthly profit)	50,000,000.00	1.55	1.48	1.48	1.55	1.48	1.45	0.00	(0.00)	(0.03)
TDR 6 Months (Monthly profit)	100,000,000.00	1.67	1.60	1.46	1.67	1.59	1.46	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	1.00	1.53	1.49	1.57	1.53	1.49	1.57	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	10,000,000.00	1.55	1.51	1.58	1.55	1.51	1.58	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	25,000,000.00	1.58	1.52	1.60	1.58	1.52	1.59	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	50,000,000.00	1.59	1.54	1.61	1.59	1.54	1.61	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	100,000,000.00	1.64	1.58	1.63	1.64	1.58	1.63	0.00	(0.00)	(0.00)
TDR 1 Year (Profit at maturity)	1.00	1.59	1.54	1.60	1.59	1.54	1.59	0.00	(0.00)	(0.00)
TDR 1 Year (Profit at maturity)	10,000,000.00	1.61	1.55	1.61	1.61	1.55	1.61	0.00	(0.00)	(0.00)
TDR 1 Year (Profit at maturity)	25,000,000.00	1.63	1.57	1.63	1.63	1.57	1.63	0.00	(0.00)	(0.00)
TDR 1 Year (Profit at maturity)	50,000,000.00	1.64	1.58	1.64	1.64	1.58	1.64	0.00	(0.00)	(0.00)
TDR 1 Year (Profit at maturity)	100,000,000.00	1.67	1.60	1.66	1.67	1.59	1.65	0.00	(0.00)	(0.00)

The relationship between weightages and profit rates of corresponding deposit products fetch same results with only one exception, due to rounding off in profit rates.

Habib Metro Bank – Sirat

TEST 1

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18
Habib Metro		Profit Rate / Weightage		
Savings	1.00	0.040	0.040	0.037
Savings	25,000.00	0.040	0.040	0.037
Savings	100,000.00	0.040	0.040	0.037
Savings	500,000.00	0.040	0.040	0.037
Savings	1,000,000.00	0.040	0.040	0.037
Savings	10,000,000.00	0.040	0.040	0.037
Savings	20,000,000.00	0.040	0.040	0.037
Savings	30,000,000.00	0.040	0.040	0.037
Savings	40,000,000.00	0.040	0.040	0.037
Savings	90,000,000.00	0.040	0.040	0.037
Savings	100,000,000.00	0.040	0.040	0.037
TDR 1 Year (Monthly profit)	1.00	0.040	0.040	0.037
TDR 2 Years (Monthly profit)	1.00	0.040	0.040	0.037
TDR 3 Years (Monthly profit)	1.00	0.040	0.040	0.037
TDR 3 Months (Profit at maturity)	1.00	0.040	0.040	0.037
TDR 6 Months (Profit at maturity)	1.00	0.040	0.040	0.037
TDR 1 Year (Profit at maturity)	1.00	0.040	0.040	0.037

Habib Metro – Sirat is using the projection mechanism for calculating weightages as is evident from the profit : weightage relationship between its various deposit products, which remain stagnant during each month but changes amongst various month.

Test 2

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18
Habib Metro		Weightages Relationship			Profit Rates Relationship			Difference		
Savings	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-	-	-
Savings	25,000.00	1.02	1.02	1.01	1.01	1.01	1.01	(0.00)	(0.00)	(0.00)
Savings	100,000.00	1.03	1.03	1.03	1.03	1.03	1.02	(0.00)	(0.00)	(0.00)
Savings	500,000.00	1.05	1.05	1.04	1.05	1.05	1.04	(0.00)	(0.00)	(0.00)
Savings	1,000,000.00	1.06	1.06	1.05	1.06	1.06	1.05	(0.00)	(0.00)	(0.00)
Savings	10,000,000.00	1.09	1.09	1.08	1.09	1.09	1.08	0.00	0.00	(0.00)
Savings	20,000,000.00	1.13	1.13	1.10	1.12	1.12	1.10	(0.00)	(0.00)	(0.00)
Savings	30,000,000.00	1.16	1.16	1.13	1.16	1.16	1.12	(0.00)	(0.00)	(0.00)
Savings	40,000,000.00	1.19	1.19	1.15	1.19	1.19	1.15	(0.00)	(0.00)	(0.00)
Savings	90,000,000.00	1.25	1.25	1.20	1.25	1.25	1.20	(0.00)	(0.00)	(0.00)
Savings	100,000,000.00	1.25	1.25	1.20	1.25	1.25	1.20	(0.00)	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	1.00	1.33	1.33	1.27	1.33	1.33	1.27	(0.00)	(0.00)	(0.00)
TDR 2 Years (Monthly profit)	1.00	1.33	1.33	1.27	1.33	1.33	1.27	(0.00)	(0.00)	(0.00)
TDR 3 Years (Monthly profit)	1.00	1.39	1.39	1.32	1.39	1.39	1.31	(0.00)	(0.00)	(0.00)
TDR 3 Months (Profit at maturity)	1.00	1.30	1.30	1.24	1.30	1.30	1.24	(0.00)	(0.00)	0.00
TDR 6 Months (Profit at maturity)	1.00	1.32	1.32	1.26	1.32	1.32	1.26	(0.00)	(0.00)	(0.00)
TDR 1 Year (Profit at maturity)	1.00	1.50	1.50	1.40	1.50	1.50	1.40	(0.00)	(0.00)	(0.00)

The relationship between weightages and profit rates of corresponding deposit products fetch same results showing weightages are just a replica of profit rates, as treated by Habib Metro.

Bank Alfalah - Islamic

Test 1

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18
Bank Alfalah		Profit Rate / Weightage		
Saving Musharaka	1.00	0.039	0.040	0.040
Saving Musharaka	10,000.00	0.039	0.040	0.040
Saving Musharaka	100,000.00	0.039	0.040	0.040
Saving Musharaka	500,000.00	0.039	0.040	0.040
Saving Musharaka	1,000,000.00	0.039	0.040	0.040
Saving Musharaka	5,000,000.00	0.039	0.040	0.040
Saving Musharaka	10,000,000.00	0.039	0.040	0.040
Saving Musharaka	25,000,000.00	0.039	0.040	0.040
Saving Musharaka	50,000,000.00	0.039	0.040	0.040
Saving Musharaka	100,000,000.00	0.039	0.040	0.040
TDR 1Year (Monthly profit)	100,000.00	0.039	0.040	0.040
TDR 1 Year (Monthly profit)	500,000.00	0.039	0.040	0.040
TDR 1 Year (Monthly profit)	1,000,000.00	0.039	0.040	0.040
TDR 1 Year (Monthly profit)	5,000,000.00	0.039	0.040	0.040
TDR 1 Year (Monthly profit)	10,000,000.00	0.039	0.040	0.040
TDR 1 Year (Monthly profit)	25,000,000.00	0.039	0.040	0.040
TDR 1 Year (Monthly profit)	50,000,000.00	0.039	0.040	0.040
TDR 1 Year (Monthly profit)	75,000,000.00	0.039	0.040	0.040
TDR 1 Year (Monthly profit)	100,000,000.00	0.039	0.040	0.040
TDR 1 Year (Monthly profit)	150,000,000.00	0.039	0.040	0.040
TDR 1 Year (Monthly profit)	200,000,000.00	0.039	0.040	0.040
TDR 3 Months (Profit at maturity)	100,000.00	0.039	0.040	0.040
TDR 3 Months (Profit at maturity)	500,000.00	0.039	0.040	0.040
TDR 3 Months (Profit at maturity)	1,000,000.00	0.039	0.040	0.040
TDR 3 Months (Profit at maturity)	5,000,000.00	0.039	0.040	0.040
TDR 3 Months (Profit at maturity)	10,000,000.00	0.039	0.040	0.040
TDR 3 Months (Profit atmaturity)	25,000,000.00	0.039	0.040	0.040

The projection mechanism is being used by Bank Alfalah for calculating weightages as the relationship between its various deposit products remain constant during each month but changes amongst various month.

Test 2

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18
Bank Alfalah		Weightages Relationship			Profit Rates Relationship			Difference		
Saving Musharaka	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-	-	-
Saving Musharaka	10,000.00	1.00	1.00	1.00	1.00	1.00	1.00	(0.00)	(0.00)	(0.00)
Saving Musharaka	100,000.00	1.01	1.01	1.01	1.01	1.01	1.01	(0.00)	(0.00)	(0.00)
Saving Musharaka	500,000.00	1.01	1.01	1.01	1.01	1.01	1.01	(0.00)	(0.00)	(0.00)
Saving Musharaka	1,000,000.00	1.06	1.06	1.06	1.07	1.06	1.06	0.00	(0.00)	(0.00)
Saving Musharaka	5,000,000.00	1.10	1.10	1.10	1.10	1.10	1.10	0.00	0.00	(0.00)
Saving Musharaka	10,000,000.00	1.11	1.11	1.11	1.11	1.11	1.11	0.00	(0.00)	(0.00)
SavingMusharaka	25,000,000.00	1.12	1.12	1.11	1.12	1.12	1.11	0.00	(0.00)	(0.00)
Saving Musharaka	50,000,000.00	1.12	1.12	1.12	1.12	1.12	1.11	0.00	(0.00)	(0.00)
Saving Musharaka	100,000,000.00	1.12	1.12	1.12	1.12	1.12	1.12	0.00	(0.00)	(0.00)
TDR 1 Year(Monthly profit)	100,000.00	1.61	1.61	1.60	1.62	1.61	1.60	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	500,000.00	1.70	1.70	1.68	1.70	1.70	1.68	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	1,000,000.00	1.72	1.72	1.70	1.72	1.72	1.70	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	5,000,000.00	1.73	1.73	1.72	1.74	1.73	1.72	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	10,000,000.00	1.75	1.75	1.73	1.75	1.75	1.73	0.00	0.00	(0.00)
TDR 1 Year (Monthly profit)	25,000,000.00	1.77	1.77	1.75	1.77	1.77	1.75	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	50,000,000.00	1.78	1.78	1.77	1.78	1.78	1.76	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	75,000,000.00	1.79	1.79	1.77	1.79	1.79	1.77	0.00	0.00	(0.00)
TDR 1 Year (Monthly profit)	100,000,000.00	1.83	1.83	1.81	1.83	1.83	1.81	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	150,000,000.00	1.82	1.82	1.81	1.83	1.82	1.80	0.00	(0.00)	(0.00)
TDR 1 Year (Monthly profit)	200,000,000.00	1.83	1.83	1.81	1.84	1.83	1.81	0.00	(0.00)	(0.00)
TDR 3 Months (Profit at maturity)	100,000.00	1.31	1.31	1.30	1.31	1.31	1.30	0.00	(0.00)	(0.00)
TDR 3 Months (Profit at maturity)	500,000.00	1.34	1.34	1.33	1.34	1.34	1.33	0.00	(0.00)	0.00
TDR 3 Months (Profit at maturity)	1,000,000.00	1.36	1.36	1.35	1.36	1.35	1.35	0.00	(0.00)	(0.00)
TDR 3 Months (Profit at maturity)	5,000,000.00	1.37	1.37	1.36	1.37	1.37	1.36	0.00	0.00	(0.00)
TDR 3 Months (Profit at maturity)	10,000,000.00	1.41	1.41	1.40	1.41	1.41	1.39	0.00	(0.00)	(0.00)
TDR 3 Months (Profit atmaturity)	25,000,000.00	1.44	1.44	1.43	1.44	1.44	1.43	0.00	(0.00)	(0.00)

The relationship between weightages and profit rates of corresponding deposit products of Bank Alfalah fetch same results every month.

Allied Bank Ltd – Islamic Banking

Test 1

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18
ABL		Profit Rate / Weightage		
Savings	1.00	3.2	3.2	3.3
TDR 1 Year (Monthly profit)	1.00	3.2	3.2	3.3
TDR 2 Years (Monthly profit)	1.00	3.2	3.2	3.3
TDR 3 Years (Monthly profit)	1.00	3.2	3.2	3.3
TDR3 Months (Profit at maturity)	1.00	3.2	3.2	3.3
TDR 6 Months (Profit at maturity)	1.00	3.2	3.2	3.3
TDR 1 Year (Profit at maturity)	1.00	3.2	3.2	3.3

The projection methodology is used by ABL Islamic for calculating weightages as the profit / weightage remain perpetual during each month but changes from one month to other.

Test 2

Bank Name / Products	Amount	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18	Jun-18	Jul-18	Aug-18
ABL		Weightages Relationship			Profit Rates Relationship			Difference		
Savings	1.00	1.00	1.00	1.00	1.00	1.00	1.00	-	-	-
TDR 1 Year (Monthly profit)	1.00	2.04	2.04	1.84	2.04	2.04	1.84	0.00	(0.01)	(0.00)
TDR 2 Years (Monthly profit)	1.00	2.18	2.18	1.96	2.18	2.17	1.96	(0.00)	(0.00)	0.00
TDR 3 Years (Monthlyprofit)	1.00	2.18	2.18	1.96	2.18	2.17	1.96	(0.00)	(0.00)	0.00
TDR 3 Months (Profit at maturity)	1.00	1.82	1.82	1.64	1.82	1.82	1.64	0.00	(0.00)	(0.00)
TDR 6 Months (Profit at maturity)	1.00	1.87	1.87	1.68	1.87	1.86	1.68	(0.00)	(0.00)	0.00
TDR 1Year (Profit at maturity)	1.00	2.20	2.20	1.98	2.20	2.20	1.98	0.00	(0.00)	0.00

The relationship between weightages and profit rates of corresponding deposit products of ABL Islamic fetches same results in all three months.

Faysal Bank – Barkat Islamic Banking

Test 1

Bank Name / Products	Amount	Jun-18	Jul-18
Faysal Bank		Profit Rate / Weightage	
Barkat Saving Account	1.00	0.040	0.035
Barkat Saving Account	2,500,000.00	0.040	0.035
Barkat Saving Account	5,000,000.00	0.040	0.035
Barkat SavingAccount	7,500,000.00	0.040	0.035
Barkat Saving Account	10,000,000.00	0.040	0.035
Barkat Saving Account	15,000,000.00	0.040	0.035
Barkat Saving Account	25,000,000.00	0.040	0.035
Barkat Saving Account	50,000,000.00	0.040	0.035
Barkat Saving Account	100,000,000.00	0.040	0.035
Barkat Inv. Cert. 3 Months (Monthly profit)	50,000.00	0.040	0.035
Barkat Inv. Cert. 3 Months (Monthly profit)	1,000,000.00	0.040	0.035
Barkat Inv. Cert. 3 Months (Monthly profit)	5,000,000.00	0.040	0.035
Barkat Inv. Cert. 3Months (Monthly profit)	10,000,000.00	0.040	0.035
Barkat Inv. Cert. 3 Months (Monthly profit)	25,000,000.00	0.040	0.035
Barkat Inv. Cert. 3 Months (Profit at maturity)	50,000.00	0.040	0.035
Barkat Inv. Cert. 3 Months (Profit at maturity)	1,000,000.00	0.040	0.035
Barkat Inv. Cert. 3 Months (Profit at maturity)	5,000,000.00	0.040	0.035
Barkat Inv. Cert. 3 Months (Profit at maturity)	10,000,000.00	0.040	0.035
Barkat Inv. Cert. 3 Months (Profit at maturity)	25,000,000.00	0.040	0.035
Barkat Inv. Cert. 3Months (Profit at maturity)	50,000,000.00	0.040	0.035
Barkat Inv. Cert. 6 Months (Monthly profit)	50,000.00	0.040	0.035
Barkat Inv. Cert. 6 Months (Monthly profit)	1,000,000.00	0.040	0.035
Barkat Inv. Cert. 6 Months (Monthly profit)	5,000,000.00	0.040	0.035
Barkat Inv. Cert. 6 Months (Monthly profit)	10,000,000.00	0.040	0.035
Barkat Inv. Cert. 6 Months (Monthly profit)	25,000,000.00	0.040	0.035
Barkat Inv. Cert. 6 Months (Profit at maturity)	50,000.00	0.040	0.035
Barkat Inv. Cert. 6 Months (Profitat maturity)	1,000,000.00	0.040	0.035
Barkat Inv. Cert. 6 Months (Profit at maturity)	5,000,000.00	0.040	0.035
Barkat Inv. Cert. 6 Months (Profit at maturity)	10,000,000.00	0.040	0.035
Barkat Inv. Cert. 6 Months (Profit at maturity)	25,000,000.00	0.040	0.035
Barkat Inv. Cert. 6 Months (Profit at maturity)	50,000,000.00	0.040	0.035
Barkat Inv. Cert. 6 Months (Profit at maturity)	100,000,000.00	0.040	0.035
Barkat Inv. Cert. 1 Year (Monthly profit)	50,000.00	0.040	0.035
Barkat Inv. Cert. 1 Year (Monthlyprofit)	1,000,000.00	0.040	0.035
Barkat Inv. Cert. 1 Year (Monthly profit)	5,000,000.00	0.040	0.035
Barkat Inv. Cert. 1 Year (Monthly profit)	10,000,000.00	0.040	0.035
Barkat Inv. Cert. 1 Year (Monthly profit)	25,000,000.00	0.040	0.035
Barkat Inv.Cert. 1 Year (Profit at maturity)	50,000.00	0.040	0.035
Barkat Inv. Cert. 1 Year (Profit at maturity)	1,000,000.00	0.040	0.035
Barkat Inv. Cert. 1 Year (Profit at maturity)	5,000,000.00	0.040	0.035
Barkat Inv. Cert. 1 Year (Profit at maturity)	10,000,000.00	0.040	0.035
Barkat Inv. Cert. 1 Year (Profit at maturity)	25,000,000.00	0.040	0.035
Barkat Inv. Cert. 1 Year (Profit at maturity)	50,000,000.00	0.040	0.035
Barkat Inv. Cert. 1 Year (Profit at maturity)	100,000,000.00	0.040	0.035

Only two months data was available for Faysal Bank – Barkat Islamic as it has yet to declare rates for month of August 2018. However, the results show that they are using projection methodology for weightages calculation as weightage / profit ratio between deposit products is same in each month.

Test 2

Bank Name / Products	Amount	Jun-18	Jul-18	Jun-18	Jul-18	Jun-18	Jul-18
Faysal Bank		Weightages Relationship		Profit Rates Relationship		Difference	
Barkat Saving Account	1.00	1.00	1.00	1.00	1.00	-	-
Barkat Saving Account	2,500,000.00	1.04	1.04	1.04	1.04	(0.00)	(0.00)
Barkat Saving Account	5,000,000.00	1.10	1.09	1.10	1.09	(0.00)	(0.00)
Barkat Saving Account	7,500,000.00	1.25	1.24	1.25	1.24	(0.00)	(0.00)
Barkat Saving Account	10,000,000.00	1.48	1.46	1.48	1.46	(0.00)	(0.00)
Barkat Saving Account	15,000,000.00	1.54	1.50	1.54	1.50	(0.00)	0.00
Barkat Saving Account	25,000,000.00	1.77	1.74	1.77	1.74	(0.00)	(0.00)
Barkat Saving Account	50,000,000.00	1.87	1.83	1.86	1.83	(0.00)	(0.00)
Barkat Saving Account	100,000,000.00	1.96	1.93	1.96	1.92	(0.00)	(0.00)
Barkat Inv. Cert. 3 Months (Monthly profit)	50,000.00	1.73	1.74	1.73	1.74	(0.00)	(0.00)
Barkat Inv. Cert. 3 Months (Monthly profit)	1,000,000.00	1.88	1.91	1.88	1.90	(0.00)	(0.00)
Barkat Inv. Cert. 3 Months (Monthly profit)	5,000,000.00	1.96	1.93	1.96	1.92	(0.00)	(0.00)
Barkat Inv. Cert. 3 Months (Monthly profit)	10,000,000.00	2.08	2.02	2.08	2.01	(0.00)	(0.00)
Barkat Inv. Cert. 3 Months (Monthlyprofit)	25,000,000.00	2.13	2.09	2.13	2.09	(0.00)	(0.00)
Barkat Inv. Cert. 3 Months (Profit at maturity)	50,000.00	1.83	1.81	1.82	1.81	(0.00)	(0.00)
Barkat Inv. Cert. 3 Months (Profit at maturity)	1,000,000.00	1.94	1.91	1.94	1.90	(0.00)	(0.00)
Barkat Inv. Cert. 3 Months (Profit at maturity)	5,000,000.00	2.02	1.98	2.02	1.98	(0.00)	(0.00)
Barkat Inv. Cert. 3 Months (Profit at maturity)	10,000,000.00	2.12	2.06	2.11	2.05	(0.00)	(0.00)
Barkat Inv. Cert. 3 Months (Profit at maturity)	25,000,000.00	2.23	2.19	2.23	2.18	(0.00)	(0.00)
Barkat Inv. Cert. 3 Months (Profit at maturity)	50,000,000.00	2.25	2.20	2.25	2.20	(0.00)	(0.00)
Barkat Inv. Cert. 6 Months (Monthly profit)	50,000.00	1.83	1.83	1.82	1.83	(0.00)	(0.00)
Barkat Inv.Cert. 6 Months (Monthly profit)	1,000,000.00	1.90	1.93	1.90	1.92	(0.00)	(0.00)
Barkat Inv. Cert. 6 Months (Monthly profit)	5,000,000.00	1.98	1.94	1.98	1.94	(0.00)	(0.00)
Barkat Inv. Cert. 6 Months (Monthly profit)	10,000,000.00	2.10	2.04	2.10	2.03	(0.00)	(0.00)
Barkat Inv. Cert. 6 Months (Monthly profit)	25,000,000.00	2.12	2.07	2.11	2.07	(0.00)	(0.00)
Barkat Inv. Cert. 6 Months (Profit at maturity)	50,000.00	1.92	1.87	1.92	1.87	(0.00)	(0.00)
Barkat Inv. Cert. 6 Months (Profit at maturity)	1,000,000.00	1.98	1.96	1.98	1.96	(0.00)	(0.00)
Barkat Inv. Cert. 6 Months (Profit at maturity)	5,000,000.00	2.08	2.04	2.08	2.03	(0.00)	(0.00)
Barkat Inv. Cert. 6 Months (Profit at maturity)	10,000,000.00	2.17	2.11	2.17	2.11	(0.00)	(0.00)
Barkat Inv. Cert. 6 Months (Profit at maturity)	25,000,000.00	2.25	2.22	2.25	2.22	(0.00)	(0.00)
Barkat Inv. Cert. 6 Months (Profit at maturity)	50,000,000.00	2.27	2.24	2.27	2.24	(0.00)	(0.00)
Barkat Inv. Cert. 6 Months (Profit at maturity)	100,000,000.00	2.31	2.26	2.31	2.26	(0.00)	(0.00)
Barkat Inv. Cert. 1 Year (Monthly profit)	50,000.00	1.87	1.87	1.86	1.87	(0.00)	(0.00)
Barkat Inv. Cert. 1 Year (Monthly profit)	1,000,000.00	1.92	2.00	1.92	2.00	(0.00)	(0.00)
Barkat Inv. Cert. 1 Year (Monthlyprofit)	5,000,000.00	2.02	2.06	2.02	2.05	(0.00)	(0.00)
Barkat Inv. Cert. 1 Year (Monthly profit)	10,000,000.00	2.10	2.07	2.10	2.07	(0.00)	(0.00)
Barkat Inv. Cert. 1 Year (Monthly profit)	25,000,000.00	2.19	2.15	2.19	2.15	(0.00)	(0.00)
Barkat Inv.Cert. 1 Year (Profit at maturity)	50,000.00	1.96	1.98	1.96	1.98	(0.00)	(0.00)
Barkat Inv. Cert. 1 Year (Profit at maturity)	1,000,000.00	2.02	2.07	2.02	2.07	(0.00)	(0.00)
Barkat Inv. Cert. 1 Year (Profit at maturity)	5,000,000.00	2.10	2.11	2.10	2.11	(0.00)	(0.00)
Barkat Inv. Cert. 1 Year (Profit at maturity)	10,000,000.00	2.15	2.13	2.15	2.13	(0.00)	(0.00)
Barkat Inv. Cert. 1 Year (Profit at maturity)	25,000,000.00	2.27	2.26	2.27	2.26	(0.00)	(0.00)
Barkat Inv. Cert. 1 Year (Profit at maturity)	50,000,000.00	2.29	2.30	2.29	2.29	(0.00)	(0.00)
Barkat Inv. Cert. 1 Year (Profit at maturity)	100,000,000.00	2.33	2.31	2.32	2.31	(0.00)	(0.00)

The ratio between weightages and profit rates of corresponding deposit products of Faysal Bank–Barkat Islamic fetches same results in the corresponding months, due to rounding off in profit rates.

Standard Chartered Bank Pakistan – Saadiq

Test 1

Bank Name / Products	Amount	Jun-18	Jul-18
Standard Chartered		Profit Rate / Weightage	
Sadiq Saver Account	1.00	0.08	0.08
Sadiq Saver Account	500,000.00	0.08	0.08
Sadiq Saver Account	1,000,000.00	0.08	0.08
Sadiq Saver Account	5,000,000.00	0.08	0.08
Sadiq Saver Account	20,000,000.00	0.08	0.08
Sadiq Saver Account	40,000,000.00	0.08	0.08
Sadiq Saver Account	60,000,000.00	0.08	0.08
Sadiq Saver Account	80,000,000.00	0.08	0.08
Sadiq Saver Account	100,000,000.00	0.08	0.08
TDR 3 Months (Profit at maturity)	50,000.00	0.08	0.08
TDR 3 Months (Profit at maturity)	3,000,000.00	0.08	0.08
TDR 6Months (Profit at maturity)	50,000.00	0.08	0.08
TDR 1 Year (Profit at maturity)	50,000.00	0.08	0.08
TDR 1 Year (Profit at maturity)	3,000,000.00	0.08	0.08
TDR 1 Year (Profit at maturity)	25,000,000.00	0.08	0.08

Standard Chartered Bank is using the projection technique for calculating weightages as the relationship between its various deposit products remain stagnant, however changes between the months.

Test 2

Bank Name / Products	Amount	Jun-18	Jul-18	Jun-18	Jul-18	Jun-18	Jul-18
Standard Chartered		Weightages Relationship		Profit Rates Relationship		Difference	
Sadiq Saver Account	1.00	1.00	1.00	1.00	1.00	-	-
Sadiq Saver Account	500,000.00	1.00	1.00	1.00	1.00	-	-
Sadiq Saver Account	1,000,000.00	1.05	1.05	1.05	1.05	(0.00)	(0.00)
Sadiq Saver Account	5,000,000.00	1.09	1.09	1.09	1.09	(0.00)	(0.00)
Sadiq Saver Account	20,000,000.00	1.14	1.14	1.13	1.13	(0.00)	(0.00)
Sadiq Saver Account	40,000,000.00	1.18	1.18	1.18	1.18	(0.00)	(0.00)
Sadiq Saver Account	60,000,000.00	1.23	1.23	1.22	1.23	(0.00)	(0.00)
Sadiq Saver Account	80,000,000.00	1.23	1.23	1.22	1.23	(0.00)	(0.00)
Sadiq Saver Account	100,000,000.00	1.27	1.27	1.27	1.27	(0.00)	(0.00)
TDR 3 Months (Profit at maturity)	50,000.00	1.45	1.45	1.45	1.45	(0.00)	(0.00)
TDR 3Months (Profit at maturity)	3,000,000.00	1.50	1.50	1.49	1.50	(0.00)	(0.00)
TDR 6 Months (Profit at maturity)	50,000.00	1.59	1.59	1.59	1.59	(0.00)	(0.00)
TDR 1 Year (Profit at maturity)	50,000.00	1.82	1.82	1.81	1.81	(0.00)	(0.00)
TDR 1 YeaProfit at maturity)	3,000,000.00	1.86	1.86	1.86	1.86	(0.00)	(0.00)
TDR 1 Year (Profit at maturity)	25,000,000.00	1.91	1.91	1.90	1.90	(0.00)	(0.00)

The relationship between weightages and profit rates of corresponding deposit products is fetch same results i.e. weightages are just a replica of profit rates, as treated by Standard Chartered Bank.

Hypothesis Testing

In order to further validate the acceptance of the null hypothesis, which is weightages calculation for profit distribution in Islamic Banks is only determined through profit rates that IBI intend to pay, regression analysis has been used. The interpretation of the regression analysis is based on the standardized coefficient beta (β) and R^2 which provides evidence whether or not the determinants specified above have any impact on the customer's preferential criteria. Regression analyses were conducted to test the factors 1 to 4 i.e. amount of deposits, tenure, profit frequency and profit rates. In this analysis, all the factors is treated as the independent variable, whereas Weightages as the dependent variable. Table I and Table II show the relationship between dependent and independent variables.

Table I: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Mean Square	F	Sig.
1	.577[a]	.333	.331	.388599	18.663	123.591	.000[b]

Predictors: (Constant), Amount of Deposit, Tenure, Profit Frequency and Profit Rate

Dependent Variable: Weightages

Table I shows that the model is significant (F = 123.591) (Sig. F = 0.000). The model explained

33.1 % of the variation in the weightages of the Islamic Banking Industry (Adjusted R2: 0.331).

Table II presents the results of the statistical tests of the hypotheses to address the research objective.

Table II: Multiple regression results coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	.559	.056		9.941	.000		
Amount	2.152E-10	.000	.099	3.621	.000	.900	1.111
Tenure	.013	.002	.188	6.685	.000	.850	1.176
Profit Frequency	.181	.026	.191	7.090	.000	.934	1.071
Profit Rate	.155	.012	.383	12.799	.000	.753	1.329

Dependent Variable: Weightages

The above table suggests that all variables have significant positive relationship with weightages i.e. Amount of Deposit (Beta = 0.099, $p \leq 0.1$), Tenure (Beta = 0.188, $p \leq 0.1$), Profit Frequency (Beta = 0.191, $p \leq 0.1$) and Profit Rate (Beta = 0.383, $p \leq 0.1$).

The evidence shows that though all the factors have their impact on the calculation of the weightages, it is the profit rate, which has the highest Beta, that had the most significant impact.

CONCLUSION

The Summary of the results of each bank is given as below:

Name of Bank	Hypothesis Test 1			Hypothesis Test 2			Test Result	Weightage Methodology
	Total Observations	No. of Outliers	%age of outliers	Total Observations	No. of Outliers	%age of outliers		
Meezan Bank	63	-	0.00%	63	4	6.35%	Accepted	Projection
Dubai Islamic	51	21	41.18%	51	15	29.41%	Partially Accepted	Factorization
Bank Islami	117	-	0.00%	117	2	1.71%	Accepted	Factorization
Bank Al Baraka	84	-	0.00%	84	-	0.00%	Accepted	Projection
MCB Islamic	72	-	0.00%	72	3	4.17%	Accepted	Projection
NBP	84	-	0.00%	84	1	1.19%	Accepted	Projection
HBL	38	-	0.00%	38	1	2.63%	Accepted	Projection
UBL Ameen	87	-	0.00%	87	2	2.30%	Accepted	Factorization
Bank AlHabib	78	-	0.00%	78	1	1.28%	Accepted	Factorization
Habib Metro	51	-	0.00%	51	-	0.00%	Accepted	Projection
Bank Alfalah	81	-	0.00%	81	-	0.00%	Accepted	Projection
ABL	21	2	9.52%	21	1	4.76%	Accepted	Projection
Faysal Bank	88	-	0.00%	88	-	0.00%	Accepted	Projection
Standard Chartered	30	-	0.00%	30	-	0.00%	Accepted	Projection
TOTAL	945	23	2.43%	945	30	3.17%	Accepted	

The hypothesis testing performed on five full-fledged Islamic Banks and nine largest Islamic Windows of conventional banks of Pakistan prove acceptance of the hypothesis i.e. weightages announced and used for profit distribution by Islamic Banking Industry are derived from the expected profit rates only, consequently making the profit distribution based on profit rates only.

From the results, it can be seen that Dubai Islamic Bank appears to be the only Islamic Bank, whose weightages are not solely dependent on the profit rates alone and they would be giving due consideration to other factors as well for calculation of weightages.

Moreover, the regression analysis conducted on the above mentioned data of the Islamic Banking Industry depicts that although all the factors i.e. size, tenure,

profit frequency of the deposit has somewhat impact on the weightages, it is profit rate which is given the maximum consideration when weightages are calculated.

RECOMMENDATIONS

Based on our research and its analysis, we would recommend IBIs and the Regulators to work on the following:

I. The Regulators may research and come out with an alternative solution for pool management and profit distribution for Islamic Banking Industry, which had a lesser chances of manipulation.

II. The regulator may introduce restriction on the change of weightages of a deposit product for a quarter and the changes shall be documented on the basis of logical reasoning, which may include the size and tenure of the deposit, the profit payment frequency, the bank's asset & liabilities ageing and need for funds etc.

III. The percentage of maximum general Hiba from Mudarib share may gradually be reduced to zero so that profits and losses are shared in its true spirit.

IV. Shariah scholars may revisit the concept of weightages in profit distribution by IBIs after reviewing the practice and calculation of weightages mechanism of these banks.

V. The criticism on Islamic banking by other school of thoughts should be taken as an opportunity for improvement and genuine concerns specially on the PLS basis shall be addressed.

VI. IBIs and Educational Institutes including Islamic Schools should start investing in the development of human capital so that knowledgeable and quality personnel are available for hiring and utilization. This may include offering of Graduate and Post-graduate programs on Islamic Banking.

ALTERNATIVE PLAN

The concept of Sub Profit Sharing Ratio between the Rabul Maal may be introduced for profit distribution instead of weightages as that would be more acceptable mechanism and the practice will be more Shariah compliant. Under this concept PSR at account level may be declared prior to the commencement of the business period instead of assigning of weightages.

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