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جـامعة حـمـدان بن محمد الـذكيـة Hamdan Bin Mohammed Smart University

مركز دبي للصيرفة والتمويل الإسلامي DUBAI CENTER FOR ISLAMIC BANKING & FINANCE

## ISLAMIC BANKING

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**GROWTH, EFFICIENCY AND STABILITY** 

DCIBF ANNUAL REPORT 2015

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H.H Sheikh Hamdan bin Mohammed bin Rashid Al Maktoum Crown Prince of Dubai and Chairman of the Dubai Executive Council President of HBMSU





H.E Lieutenant General Dhahi Khalfan Tamim Deputy Chief of Dubai Police and General Security Chairman of HBMSU Board of Governors





H.E Essa Kazim Secretary General, Dubai Islamic Economy Development Centre As banking and financial services professionals, we have often struggled to explain the logical correlation between development and data, or indeed between the economy and knowledge – as proficiency in one can seldom be achieved by ignoring the other. The 2016 edition of the 'Islamic Banking: Growth, Efficiency and Stability Report' compiled by the Dubai Center for Islamic Banking and Finance of the Hamdan bin Mohammed Smart University aims to resolve this very conundrum.

Since the launch of the Dubai: Capital of Islamic Economy initiative in 2013, the integrated strategy of the Dubai Islamic Economy Development Centre (DIEDC) has sought to position Islamic economy as a value-addition to the global economy - not as a quantitative inclusion.

The importance of the findings and analysis of this report stem largely from the fact that they were undertaken by a reputable local academic institution of high calibre.

The release of this landmark report fulfils a key strategic objective in DIEDC's journey to shape a comprehensive Islamic economy ecosystem through encouraging the academic sector to produce more research studies that analyse market trends, financing opportunities, and the integration of finance in varied economic activities. Such efforts pave the way for the establishment of local centres for Islamic research and for rating agencies that comply with the principles of Islamic economy.

The DCIBF Annual Report 2015 analyses the future challenges of Islamic finance in countries that hold the largest share of Islamic financial assets. The report forecasts the industry's future trends and the impact of regional circumstances - primarily dwindling oil prices. These analyses encourage us to redefine the real value of Islamic financial assets and to perceive them in isolation of other regional factors. We need to view such assets as independent wealth that can be leveraged to implement productive initiatives and activities in non-oil economic domains in local and international markets.

The definitive report that studies the Islamic banking outlook and measures its efficiency encourages all stakeholders of Islamic economy to consider developing an Islamic financial institution that can play a significant role in rejuvenating local and international markets. This can be achieved through assessing the opportunities that the markets offer to implement economic diversification measures and ensure the much-needed balance between what the markets produce on the one hand and consume on the other.

The report also elaborates on factors that serve as catalysts to spur the growth of the Islamic banking and finance industry. More specifically, the content highlights the key role of Islamic economy in eradicating poverty and financing economic and social development in the countries that struggle to finance the growth of small and medium enterprises.

The report provides conclusive evidence that the renaissance of Islamic economy depends largely on the ability of its sectors to achieve the ultimate human goals that differentiate this ethical economic system from other conventional systems.

I commend the effort that's gone into the compilation of this report and believe its findings will serve as a valuable resource for economies at large.



**Dr. Mansoor Al Awar** HBMSU Chancellor Chairman of the Governing Board, UNESCO Institute for Information Technologies In Education In alignment with 'Dubai the Capital of Islamic Economy' Initiative launched by His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice-President and Prime Minister of the UAE and Ruler of Dubai, and the Dubai Strategic Plan aspects related to the Initiative, this report represents another significant contribution by the Dubai Center for Islamic Banking and Finance to the research portfolio in this industry.

The efficiency analysis of Islamic banks presented in this report is first of its kind in that it is specifically applicable to Islamic banks. The methodology adopted here is innovative, as it combines academic methods with some basic tools that practitioners can benefit from. Using these methods and tools, the report ranks Islamic banks from around the world according to their efficiency, from the most efficient bank to the least efficient one.

The report addresses pressing challenges facing the Islamic banking and finance sector, at a time when many factors have tremendous impact on the industry, for example the impact of the downward pressure of the oil prices. In view of these challenges, the concentration of Islamic banking assets in a handful of countries presents a systemic risk to growth and stability of Islamic banking.

As it gleans more experience and has more resources to capitalize on, the Center will continue to conduct and facilitate research, and will advance the concepts and the applications of research in Islamic Banking and Finance.



**Professor Nabil Baydoun** Vice Chancellor for Enterprise & University Advancement

The contribution of the Islamic economy to world economy has experienced a remarkable growth during the past three decades. In particular, Islamic finance has been gaining momentum on a global scale, and has been offering profitable opportunities for institutions and individual investors of all sizes. Islamic Finance now represents an important system offering viable innovative alternative models for investment and growth to the conventional financial system which is under significant strain owing to the recent financial crisis.

More than 400 Islamic banks and financial institutions are now operating in over 60 countries in different regions including Europe, Americas, South Asia, Far East, Africa and Australia.

Yet, despite the impressive growth of Islamic finance and the number of Islamic banks operating around the world, measuring the efficiency of these institutions has not been given the attention it deserves. Approaches used in the conventional banking industry have generally been used in Islamic Banking with no consideration of the unique circumstances and the specific characteristics of these banks.

This report ranks Islamic banks from around the world according to their efficiency. The results shows that Kuwait Finance House is the most efficient bank world-wide, while Saman Bank of Iran is found to be the least efficient. Dubai Islamic Bank, the oldest commercial Islamic bank in the world, stands fourth in the study of efficiency ranking of Islamic banks.

The growth and competitiveness of Islamic banking depends, according to this report, should be driven by several factors including: size, brand, ability to enter new markets, microfinance, combating poverty, strategic alliances, and the development of Islamic finance as an Integral part of the global Halal economy.

Dubai is well placed to promote rigorous research in Islamic banking and Finance. The Dubai Government has seen a real potential for expanding its economic base and wants Islamic economics to play a significant part in the wider economic system.

This report represents another attempt by the Dubai Center for Islamic Banking and Finance to further its efforts in support the initiative of H.H Sheikh Mohammed bin Rashid, Vice President of the UAE and Ruler of Dubai for Dubai to become the "global capital" of the Islamic economy, and the Dubai Strategic Plan which highlights knowledge and sustainable economic development by providing rigorous scientific research that addresses topical issues in Islamic economic and finance.

DCIBF will continue to conduct and facilitate research to advance rigorous scientific research in Islamic Banking and Finance.



**Professor Humayon Dar,** Chairman, Edbiz Corporation It is indeed a great honour and privilege for me to work with an award-winning Centre of Excellence like Dubai Centre for Islamic Banking and Finance at HBMSU. The leadership of the University, under the patronage of His Highness Sheikh Hamdan Bin Mohamed Al Maktoum, Crown Price of Dubai, has initiated a number of research projects, and this report is certainly one the best amongst these.

The efficiency ranking of Islamic banking presented in this report has already been used by Islamic financial industry, whereby Cambridge IF Analytica used it in its inaugural Islamic Retail Banking Awards held in Dubai in November 2015.

Although academically more rigorous efficiency analyses exist, the pragmatic approach adopted by this report is the most innovative, with direct relevance to the global Islamic financial services industry. The research projects like this will definitely help Dubai to become an intellectual powerhouse for the global Islamic economy, consistent with the vision of His Highness Sheikh Mohamed Bin Rashid Al Maktoum, Vice President of the UAE and Rule of Dubai.

I trust that this report will be a trend-setter in Islamic banking and finance, leading to further applied research in this fast growing industry.

# PROJECT TEAM







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## EXECUTIVE SUMMARY



This year's Islamic Banking: Growth, Efficiency and Stability Report focuses on efficiency of Islamic banks operating in different parts of the world. The report comprises four chapters, focusing on different aspects of Islamic banking. After an overview of Islamic banking (Chapter one), this edition provides an analysis of performance of Islamic banks, based on key indicators and financial ratios (Chapter two). Chapter three provides a detailed literature review on Islamic banking efficiency, before we present our own analysis of efficiency of Islamic banks in Chapter four.

Efficiency analysis of Islamic banks is first of its kind for any industry report on Islamic banking and finance. Previous studies focusing on efficiency of Islamic banking are purely academic in nature and have by and large been ignored by Islamic banks and financial institutions to get policy implications for the practice of Islamic banking and finance. The methodology adopted by this report is innovative, as it combines academically rigorous methods with some basic tools that are easily comprehendible by the practitioners.

The report is based on an analysis of fullfledged Islamic banks, excluding Islamic operations of conventional banks. There are at least three reasons for this exclusion:

(1) Islamic assets under management of conventional banks are only a fraction of the total Islamic financial assets (Islamic assets under management of full-fledged Islamic banks are 80% of the global Islamic banking assets, leaving only 20% under management of conventional banks);

(2) following the number 1 above, it appears as if the so-called "Islamic window" model has proven to be at best a second-best choice of stakeholders in the Islamic financial services industry; and

(3) the last year's report had detailed comparative analysis of Islamic and conventional banking and the keen readers are referred to the previous report.

The ranking of 131 Islamic banks from around the world in terms of their efficiency is a major hallmark of this report. The efficiency analysis suggests that Kuwait Finance House is the most efficient bank world-wide, while Saman Bank (in Iran) is found to be the least efficient Islamic bank in the world. Dubai Islamic Bank, the oldest commercial Islamic bank in the world, stands fourth in the flobal efficiency ranking of Islamic banks.

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## CHAPTER ONE

# OVERVIEW OF ISLAMIC BANKING



22 ISLAMIC BANKING GROWTH, EFFICIENCY AND STABILITY Global Islamic financial services industry attained the landmark size of US2\$ trillion at the start of 2015, out of which threequarters of Islamic financial assets lie within Islamic banking. The remaining one-quarter includes sukuk, Islamic investment funds, takaful and other practices like microfinance. This makes Islamic banks as the most significant component of the Islamic banking and finance (IBF) industry.

Roughly US1.5\$ trillion lie within Islamic banking industry. The figure includes Islamic financial assets with full-fledged Islamic banks and those within Islamic banking operations of conventional banks. Full-fledged Islamic banks possess 80% of the global Islamic banking assets or 60% of the global Islamic financial assets (see Figure 1). Conventional banks with Islamic banking operations hold only US300\$ billion worldwide, suggesting that Islamic banking window model has yet to develop itself to meaningful level and proportion<sup>1</sup>. The partial exit of the likes of HSBC Amanah, limited success of other global Islamic banking brands, and recent decision by DBS to progressively wind down its subsidiary Islamic Bank of Asia allude to this point. However, dual banking system on a national level has proven to be a popular choice.

While two countries, namely Iran and Sudan, have 100% Shari'a compliant banking sectors, other countries have allowed Islamic banks to operate along with conventional banks that represent majority of banking activities.

<sup>1</sup>This is confirmed by a survey of perceptions commissioned by the State Bank of Pakistan (SBP) to quantify demand for Islamic banking in the country (http://www.edbizconsulting.com/publications/KAPStudy.pdf).



#### Figure 1: Islamic Banking Assets as a Subset of Global Islamic Financial Assets

In terms of regional distribution of Islamic banking assets, MENA region has the largest concentration, with 81% of global Islamic banking assets. The GCC region, as a subset of MENA has US573\$ billion assets, comprising 38% of the global Islamic banking assets. Asia comes number 3 (see Figure 2).

Looking at Figure 2, one is led to believe that Islamic banking is primarily a Middle Eastern phenomenon, with the largest concentration of assets. However, one must keep in mind that the statistics on the MENA region include Iranian Islamic banking, which has yet to integrate with the global Islamic banking industry.

Average market share of Islamic banking in the countries where it has significance in size and proportion (top 15 countries in terms of share of their Islamic banking assets in the global Islamic banking assets pool) is slightly over 30%. If we remove Iran and Sudan from the list, then the average drops to 20% (see Figure 3).

The concentration of Islamic banking assets in a handful of countries presents a systemic risk to growth and stability of Islamic banking. Out of the fifteen countries shown in Figure 3, seven are heavily dependent on oil revenues. This may mean that any changes (upwards and downwards) in oil prices are expected to have an indirect impact on the growth of the global Islamic banking industry. While the effect of recent decrease in oil prices in the international markets have yet to be seen, many industry observers believe that this will decelerate the growth of banking if the trend continues.

However, there is a commonly held view that downward pressure on oil prices will adversely affect conventional banks more than Islamic banks, as the latter are less dependent on the public sector than the former in terms of government sector support and deposits.

The banks like Qatar National Bank, National Bank of Abu Dhabi, National Commercial Bank and National Bank of Kuwait are expected to feel the heat more than their closest Islamic banking peers like Qatar Islamic Bank, Abu Dhabi Islamic Bank, Al Rajhi Bank and Kuwait Finance House, respectively. Most Islamic banks, especially those with larger private sector shareholdings, happen to have bigger proportions of retail loans and smaller proportionate deposits from the governments in the GCC region, and hence are less vulnerable to oil prices. For example, Al Rajhi Bank in Saudi Arabia is less reliant on the government sector deposits as compared with its larger competitor National Commercial Bank that receives greater government patronage. This is almost consistent with the anecdotal evidence emerging from the recent financial results announced by Islamic and conventional banks in the GCC countries (see Table 1).

*"Islamic banks happen to have bigger proportions of retail loans and smaller proportionate deposits from the governments in the GCC region, and hence are less vulnerable to oil prices."* 



#### Table 1: Profitability of Islamic and Conventional Banks in the Wake of Low Oil Prices in the GCC

	Country	Bank		Q1 2015 Reported Profit Rate
188000 	Saudi Arabia	Conventional	SAMBA	3.1%
		Islamic	Al Rajhi Bank	-0.1%
	Kuwait	Conventional	NBK	15%
		Islamic	KFH	14.6%
	Bahrain	Conventional	AUB	7.8%
		Islamic	Ithmaar Bank	261%
	Qatar	Conventional	QNB	10.1%
		Islamic	QIB	19%
E	UAE	Conventional	NBAD	4%
		Islamic	ADIB	10.1%

\* Many industry observers may wish to compare SAMBA with NCB whose retail banking operations are predominantly Shari'a compliant. NCB posted a profit of 2.8% for the reported period.





- Market Share in National Banking Sector
- Share in Global Islamic Banking Assets

## A Strategy for Growth of Islamic Banking

Although Islamic Development Bank (IDB) and Islamic Financial Services Board (IFSB) published a 10 - year master plan for the Islamic financial services industry in 2005, there has nevertheless been no proper follow up since then<sup>2</sup> . GIFR 2015, a leading opinion-making annual report, asserts that higher growth of Islamic banking is waning in key geographic regions, including Saudi Arabia, the UAE and Malaysia. It is expected that the growth advantage of Islamic banking will eventually lead to an environment wherein Islamic and conventional banks will experience similar growth patterns.

A robust analysis of systemic risk facing the global Islamic financial services was presented in GIFR 2015, which divides different countries of the world into established leaders, emerging leaders, potential leaders and tailenders, with respect to their role and standing in the global Islamic financial services industry. The established leaders - Iran, Malaysia and Saudi Arabia – account for 47% of the Islamic Finance Country Index (IFCI). It is asserted that any upward and downward changes in Islamic banking and finance (IBF) in these countries are expected to have a major impact on the global Islamic financial services industry. The emerging leaders - the UAE, Kuwait, Bahrain, Indonesia and Qatar - account for 29% of the IFCI. Given that all of them barring Indonesia are based in the GCC region, any regional impact is expected to have a significant effect on the global Islamic financial services industry, including Islamic banks. Other countries pose the least risk to IBF on a global level, and may, therefore, be targeted for further growth of Islamic banking (see Figure 3). In particular, the likes of Bangladesh, Pakistan, Turkey and Indonesia are the countries with huge Muslim populations and the growth prospects and economic fundamentals are string therein. Targeting these countries to expand frontiers of Islamic banking should

be part of a global strategy for growth and competitiveness of the industry.

Figure 4 presents an interesting scenario. The seven countries included in the figure are amongst those where share of Islamic banking in national bankig sector is less than the lowerthreshold of the average share of 20% (see Figure 2). If a strategy is devised to push up the share of Islamic banking in these countries to the 20% threshold, this is going to result in a huge boost to the global Islamic banking industry. Based on the current size of US1.5\$ trillion of the global Islamic banking industry, this will imply an injection of US364.5\$ billion to the already accumulated assets by Islamic banking institutions.



<sup>2</sup> Admittedly, IFSB has for last three years been publishing an Islamic Financial Services Industry Stability Report (of which the 2015 edition was launched at Almaty on May 2015,15), which in itself is a useful document, but this has only limited focus on the issue of competitiveness and growth in the wake of dual banking system in which Islamic banke operato Egypt, Indonesia and Turkey have huge growth potentials. With their under-developed Islamic banking sectors within relatively big national banking sectors, if market share of Islamic banking in these countries is brought to 20%, it will bring them to significance on a global level.

However, there is some anecdotal evidence emerging suggesting that on a macro level growth in Islamic banking starts decelerating after Islamic banking attains a share of 20% of the national banking sector in a country. On a micro level, it is an uphill task for the Islamic banking teams at conventional banks to grow their business to the 20% of the total business of the banks. It seems as if the top management of conventional banks is concerned with the cannibalization of their conventional business by Islamic banking that is deemed to bring little additional value. Once Islamic banking becomes more significant within a conventional bank, its further growth within the bank becomes easier.

On a global level and in particular national contexts, growth in Islamic banking can come with both greenfield and brownfield expansion. Greenfield expansion can be attained by developing new markets and products, and through targeting the financially excluded segments in the Muslim world. On an institutional level, growth of Islamic banking is primarily through switching of conventional customers to Islamic banking, without necessarily bringing additional business to the bank. This is one of the factors for declining enthusiasm of conventional banks towards Islamic banking., at least in the markets where Islamic banking has attained a level of maturity.

Brownfield growth can be achieved by devising a comprehensive strategy for competition with conventional banks. In an increasingly competitive environment in the aftermath of the Great Financial Crisis wherein profit margins have gone down and there is an overwhelming concern with cost-cutting, conventional banks are expected to restrict their Islamic banking operations. A number of heads of Islamic banking within conventional banks share this frustration. The limit to growth of Islamic banking within conventional banks is real, and it requires special attention by the global and national industry-representative bodies and institutions.

On a macro level, this implies creating a level-playing field for Islamic banking to

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compete within the mainstream banking sector. This necessarily means recognition and implementation of a dual banking system for introduction of Islamic banking in countries where it has previously not existed. There is a need to develop comprehensive guidelines for developing an implementing a dual banking system on a country level, with a focus on its objectives, required legislative changes, regulatory framework, taxation regime, and a comprehensive policy.

In case of Muslim countries, the dual banking system should also include a threshold percentage of Islamic banking in the national banking sector by a chosen date. Also, it should include a timeframe for full conversion of banking system into Islamic.

The following 10 points must be considered for adoption in a global strategy for growth and competitiveness of Islamic banking:

## 1. Increase in Size of the Islamic Banks

Despite phenomenal growth in Islamic banking in at least some of the countries, nowhere in the world<sup>3</sup> an Islamic bank can boast to be the market leader. Even in Saudi Arabia, where Al Raj hi Bank is a major player in the banking sector, it falls behind National Commercial Bank (NCB), which is the largest bank in the GCC region.

One obvious way of increasing size is to beef up the capital base of Islamic banks. There have for long been attempts to create a mega Islamic bank – most recently by the Malaysian and Indonesian governments but before that by the likes of Sheikh Saleh Kameil – but these attempts have yet to come to fruition.

To grow organically, IBFIs must retain sufficient profits to enable them to purchase new assets, including new technology. Many shareholders, especially the smaller ones, may find it unattractive at least in the short-run. However, such a policy is in the best interest of the business and its owners, as over time the total value of individual IFBIs will rise, providing them collateral to enable them to raise more funds both in equity and debt for further expansion.

## 2. Brand Development

Unlike some other mega brands that a few

<sup>3</sup>Excluding Iran and Sudan wherein the whole financial systems are proclaimed to be Islamic.

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non-financial firms (e.g., Emirate Airlines) and banking groups (e.g., QNB) have created in the recent past, IBF has yet to succeed in this respect. Although the likes of Kuwait Finance House (KFH), Dubai Islamic Bank (DIB), and Albaraka are well known brands in IBF but their recognition is limited to the Islamic financial markets.

One of the most common strategies for internal growth is to build the firm's brand, which provides the firm with many advantages. Once a brand is established, less advertising is required to launch new products. Internal growth often provides a low risk alternative to integration, although the results are often slow to arrive.

Brand development and identity are slightly two different areas. Changing name of an Islamic bank (e.g., from Noor Islamic Bank to Noor Bank) and changing its logo (like the recent change in the logo of Dubai Islamic Bank) are two different propositions. While Noor Bank decided to change its Islamic identity in favour of a more mainstream name, Dubai Islamic Bank's recent move has been to modernize its logo, with slight modifications to its original logo. At this stage when brand strengthening is required, some consultancy firms are advising Islamic banks and financial institutions to change their identity to look like mainstream financial institutions. The desire to make IBFIs mainstream is so strong that, as stated above, one particular consultancy firm has started calling Islamic banking as participation banking<sup>4</sup>

### 3. Quantification of Demand

A first step towards developing IBF is to identify and quantify demand for Islamic financial services in the targeted markets. Apart from Pakistan, no other country in the world has taken a systematic approach to determining the demand for Islamic banking. Without having an objective view on the demand and its nature, developing a strategy for growth and competition will not be effective.

Authentic market research is absolutely important to devise a comprehensive and dynamic model of Islamic banking system. In case of Pakistan, for example, the State Bank of Pakistan (SBP) commissioned a Knowledge, Attitude and Practices (KAP) study to quantify demand for Islamic banking in the country.

<sup>4</sup>While the term participation banking is understandable in the context of Turkey, renaming the whole industras participation banking is inadequate. The study was funded by the UK Department for International Development (DFID) and undertaken by Edbiz Consulting<sup>5</sup>.

The concepts like Shari'a premium and displaced commercial risk (DCR) have direct implications for growth and competition. However, these concepts were introduced to Islamic banking without any objective justification. It seems as if the Islamic bankers (trained in the conventional tradition) wanted to practice Islamic banking as close to conventional banking as possible. To do so, they highlighted the unique risks like DCR and suggested mechanisms like profit equalization reserve (PER) and investment risk reserve (IRR).

There is a need to test hypotheses around applicability of such concepts in the context of IBF, with the help of real data rather than opting for subjective analyses. For example, empirical evidence on the relevance of DCR in Pakistani Islamic banking suggests that 62% of the respondents would not withdraw money from an Islamic bank, if it announces a rate of profit less than the market rate of return. Furthermore, DCR was not found to be contributing significantly to the construction of demand index for Islamic banking. Empirical studies like KAP can help understand demand for Islamic banking and the factors affecting it.

## 4. Development of New Markets

The so-called Arab Spring brought optimism in favour of IBF in a number of countries, including but not limited to Egypt, Libya, Morocco, Tunis, Algeria, Syria and Oman, but it has taken a lot longer to introduce IBF in these countries than what industry observers expected. While in Oman, the introduction of IBF has been smooth; in other countries the political turmoil has not been entirely helpful. Similarly, after some initial enthusiasm in some African countries like Nigeria and Kenya, the growth has been rather slow. Furthermore, the central Asian Muslim countries have also been slow in introducing or adopting IBF. Kazakhstan has been an exception but even there the follow up has been lukewarm.

Interestingly, apart from the North African countries, other African countries that have shown interest in IBF are the ones with Muslim minorities, e.g., South Africa, Nigeria and Kenya. The Muslim-majority African countries have not so far taken a lead role in developing IBF as part of a national strategy. One business group in Somalia has in the recent past started looking into setting up an Islamic bank. Given the ongoing civil war in the country, even this may not lead to optimism with reference to IBF in the African continent.



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Despite this grim picture of macroeconomic conditions and socio-political environments, IBF has a potential to grow in these countries, and the organisations responsible for infrastructural development for the industry (given in Table 1) must engage themselves with the stakeholders therein.

### 5. Expansion into the Countries with Civil Wars and Internal Conflicts

There are a number of Muslim countries marred by civil wars and internal conflicts, namely, Somalia, Libya, Iraq and Syria, where IBF has historically been almost negligible. These internal conflicts provide an opportunity for IBF to play a role in resolution of many political issues. Incidentally, these countries have now had increasing incidence of poverty that could be tackled with the help of IBF.

It is true that IBF has largely developed itself as an elitist phenomenon but the increase in income inequalities and absolute poverty in these and many other Muslim countries offer an opportunity for IBF to reform and make itself relevant to solution of socio-economic problems.

One way of promoting IBF in these countries is by way of engaging with the organisations involved

in conflict resolution and other multilateral institutions like the UN, World Bank and IMF. Such an engagement will not be entirely new, as World Bank and IMF are already exposed to IBF on a limited scale. In fact, World Bank is already seriously looking into engaging itself with IBF. The establishment of the World Bank Global Centre of Islamic Finance at Istanbul is a step in this direction. Furthermore, World Bank has for a few years been co-organising an annual conference on IBF in conjunction with AAOIFI.

The World Bank Global Center is envisaged as a knowledge hub for developing Islamic finance globally, conducting research and training, and providing technical assistance and advisory services to the World Bank Group client countries interested in developing Islamic financial institutions and markets. On the occasion of the opening of the Centre on 30 October 203, President of the World Bank Group, Jim Yong Kim, stated that the Center is a symbol of the Bank Group's objectives of developing Islamic finance and maximizing its contribution to poverty alleviation and shared prosperity in client countries.

It is hoped that this Center will become the cornerstone for the efforts of World Bank to promote IBF. With the countries like Turkey taking a leading role in designing and



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delivering cutting-edge technical assistance, advisory services, as well as generating and disseminating practical knowledge on how to make Islamic finance more relevant for growth and development, the Centre has a definite role to play in this respect. Given that the Centre is geographically located in a region where a number of Muslim countries are facing internal conflicts, the Centre has a huge potential to bring IBF to the forefront of policy-making in the region.

## 6. Development of Islamic Microfinance and Combating Poverty Through Financial Inclusion

Targeting the financially excluded can spur growth in IBF. However, the interest of the industry in this promising segment of the market is rather limited. Out of US1.984\$ trillion assets under management of the IBFIs, less than 1% are in the microfinance sector.

There is a need that IBFIs should work with governments and other relevant institutions to provide community development finance. In this respect, the organisations like World Bank, IDB, ADB and African Development Bank can play an important role, and they must be engaged.

## 7. Development of Global Leadership in IBF

The likes of World Islamic Economic Forum (WIEF) have played an important role in providing a platform to the Muslim political leadership to get engaged in Islamic economic and financial issues in a popular fashion. Similarly, the establishment of Global Islamic Finance Leadership Award by Global Islamic Finance Awards (GIFA) has also helped in engaging the Muslim political leadership with IBF. However, a lot more needs to be done to develop, nurture and promote leadership in IBF.

In conventional financial institutions and other organisations, promotion of IBF has been individual-driven. For example, HSBC got engaged in IBF due to the efforts of the likes of Iqbal Khan. Before that, the likes of DMI Trust and Albaraka Group were developed by Prince Mohamed Al Faisal and Sheikh Saleh Kamel, respectively. Hence, it is absolutely imperative to develop a new breed of Islamic bankers and finance experts who should serve as torch-bearers of IBF. Such new leaders must be developed through Islamic finance leadership programmes, which should be financed by all the stakeholders in the industry.

## 8. The Need for a Centre of Excellence for Research & Development in IBF

While the likes of IRTI and ISRA specialize in general and Shari'a specific research in IBF, there is a need for setting up a specialized CoE focusing on growth and competition in the context of IBF. Investment in R&D is crucial to innovation that increases competitiveness and leads to growth.

Islamic financial innovation must involve developing new Islamic financial products and services to increase the range of products and services to meet the more sophisticated and complex requirements of todays consumers and businesses. It is also about improving the overall efficiency by which the products and services can be delivered. Innovation in IBF must also involve continuous introduction of new structures that may contribute towards achieving economies of scale and scope.

As mentioned above, it must also contribute towards creating new markets or expand the existing markets for Islamic products and services. Industry practitioners thus have an



34 ISLAMIC BANKING GROWTH, EFFICIENCY AND STABILITY important role to promote innovation. Financial institutions need to equip their business strategies with research and development to design new innovative products and services. The innovative financial products and services that are credible, competitive and Shari'a compliant would indeed find a ready market.

All this can be achieved by setting up a forum for well-informed debate and research about the future of IBF. The proposed forum should do this through a range of activities: written research, live discussion groups and networks, all focused on the latest developments in international finance and their relevance to IBF.

The activities of the forum should be built around: • The post-financial crisis debate: how should the IBF be made relevant to the regulatory debate around the world and to promote IBF as a viable system to help bring stability in the global financial market?

• The OIC block: prospects for the emerging financial centres in the Middle East and Far East Asia in a wider global context;

 Technology: the impact of the internet and other new developments on Islamic financial markets, payment systems and bank strategies;

 Governance: strengthening the global Islamic financial sector through advocacy of the institutions like IFSB and AAOIFI; Financial inclusion: getting Islamic financial services out to those who need them but are currently excluded from financial sector; and
Risk management: identifying and managing emerging risks in the practices of IBF.

#### 9. Looking for New Alliances

Having developed an alliance with the conventional Western mainstream banking and finance has helped IBF in receiving recognition and respect from the regulators and authorities in the countries where IBF is significant in operations, visibility and presence. While this have helped in the initial phases of development of the industry, going forward it will have to seek partnerships with other alternative forms of banking and finance.

Crowdfunding, for example, is gaining momentum in UK and other European countries, following an initial success in USA. As a number of crowdfunding platforms are equity-based, this alternative form of finance is in line with the general Shari'a requirements, and it will be good for IBF to explore possibilities of cooperation with the leading crowdfunding players. Also, crowdfunding is similar to branchless banking, which is a preferred model in the Western world for its cost effectiveness and is being encouraged by a number of banking regulators in the developing and emerging markets as a drive to improve financial inclusion.



## 10. Development of IBF as an Integral Part of a Global Halal Economy

IBF is certainly an offshoot of Islamic economics. However, over the last four decades, IBF has gradually moved away from the movement of Islamic economics and has in fact emerged as a purely market-driven phenomenon.

This decoupling of IBF and Islamic economics has not been seen favourably by a number of stakeholders, especially informed consumers. It is only recent that Dubai government has started a drive to make Dubai a global centre of excellence for Islamic economy, and as a part of it has started promoting IBF. This is a step worthy of appreciation and emulation. In GIFR 2013, we argued that combining IBF with halal economic sector will increase the size of the combined Islamic financial and halal sector to more than the simple additive size of the two sectors.




### SUMMARY

Islamic banking assets are highly concentrated in a few countries. Although it is expected that Islamic banking will continue to grow globally, it may face challenges in the countries that heavily rely on oil and other commodity prices.

Diversification of the industry in regions and further expansion of it in additional countries is essential for sustainable growth of Islamic banking.

For this to happen, there is a need for a global strategy for growth of Islamic banking and its competition with the more dominant conventional banking. It is also important to study the most suitable model of Islamic banking, and a choice should be made on policy level between an Islamic window model or a full-fledged Islamic banking regime.

## **CHAPTER** TWO

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SUMMARY 5

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#### Introduction

This chapter is a preview of efficiency analysis of the Islamic banks included in the sample used in this report. While a detailed efficiency analysis will be presented in Chapter 4, it is instructive to first look into some important performance indicators of Islamic banking, with a view to assess its growth potential and stability. In fact, in case of Islamic banking that lacks long enough timer series data, it is perhaps more useful to study the anecdotal evidence provided by the recent data (see Box 1 for the data limitations).

Unlike its predecessor – Islamic Banking Growth, Efficiency and Stability Report 2014 – this edition of the annual report investigates performance indicators of Islamic banks and does not attempt to compare these with conventional banks. This is deliberate as there has been little change over the last 12 months in terms of comparison between Islamic and conventional banks.

This chapter starts with an analysis of growth of Islamic banking, decomposing it into brownfield and greenfield growth across large, medium and small sized Islamic banks.

The next section looks into Islamic banking assets, focusing on the top 10 Islamic banks in the world, in terms of their assets under management. The significance of these banks is discussed with reference to their shares in their respective national Islamic banking sectors.

Total equity to total assets ratios are presented as a basic indicator of stability of Islamic banks. In a following section, financing to deposits ratio is also presented as a crude measure of stability or riskiness of Islamic banks. OVERVIEW OF ISLAMIC BANKING

#### Data Limitations

The data used in this report is limited toonlythose Islamic banks that are included in Bankscope database, and is further limited by the latest information included therein. The financial reporting by Islamic banks is at best patchy, as Islamic banks included in the Bankscope database are infrequent in submitting their data to Bankscope. Although Islamic banks operating in more advanced regulatory environments share their annual reports through their websites, this is not necessarily the case for the Islamic banks operating in the countries that are peripheral to the main Islamic banking markets.

The limited amount of data offered by Bankscope also indicates the poor quality of the data provided by Bankscope itself. Given this, it is surprising to observe that most of academic and non-academic studies use this incomplete and low quality data.

While this report follows the trend in the academia and consultancy market, it nevertheless cautions the readers of the quality of the data used.

The report also recommends to the top management of Islamic banks to ensure that their financial information is submitted to the databases like Bankscope in time so that meaningful research could be conducted on Islamic banking. It is with the help of academically rigorous and professionally competent research works, among other factors, that the practice of Islamic banking can be improved and relevant policy guidelines can be drawn.

It is partially due to the low quality and incompleteness of data that our efficiency analysis (to be presented in the next chapter) is based on some qualitative information in addition to quantitative information.

Figure B1 presents the issue of paucity of complete data on Islamic banking by highlighting that Islamic banks:

1. do not submit data timely;

2. the ones that provide the data have not done so on an annual basis;

3. a very significant number of Islamic banks actually do not provide data at all; and

4. at the time of writing of this research no Islamic banks had submitted data in 2015 (e.g., more than 40% of Islamic banks included in this sample have three years lag on data availability).

Therefore, where possible, supplementary data was used from additional sources. IFSB collects data directly from its members and over the last three years it has made progress to start reporting and analyzing some important trends in systemic stability of Islamic banking and finance. This will, however, take some time before long enough time series data is available on Islamic banking practices and trends.





Source: Bankscope

#### Growth of Islamic Banking

There is a definite growth in the assets under management (AUM) of Islamic financial institutions in the last 10 -15 years. Average growth in Islamic AUM over 2009 -14 has been 16.1%, which is considerably higher than the annual growth of 9.3% between 2013 and 2014.

Total assets held by 177 Islamic banks<sup>6</sup> reporting to Bankscope are estimated to be US1.245\$ trillion, which represent an annual growth rate of 10.47% over the assets of US1.127\$ trillion reported in our last year edition of this report. This means that Islamic banking as a sub-sector of Islamic banking and finance has slightly outperformed the overall industry.

The sources of this growth happen to be brownfield as well as greenfield<sup>7</sup>. Brownfield growth in Islamic banking is defined as the percentage average growth in Islamic banking assets purely due to increase in the size of operations of Islamic banks. Greenfield growth in Islamic banking, on the other hand, is defined as the percentage average growth in Islamic banking assets purely due to increase in number of Islamic banks.

Table 1 confirms that there are 177 full-fledged Islamic banks reporting their assets, 50% increase in the number of reporting Islamic banks over a period of four years (2010-2014). Islamic banks of all sizes have contributed to the growth, but the greatest proportion of growth comes from the largest Islamic banks, i.e., the banks with assets more than US10\$ billion.

Medium sized Islamic banks, i.e., the banks with assets between US3\$ billion and US9.99\$ billion, contributed the least to growth in Islamic banking assets. One reason for this could be graduation of some of the medium sized Islamic banks into large Islamic banks during the reported period. Small sized Islamic banks (with assets less than US3\$ billion) also registered significant growth.

#### Table 1: Growth of Number of Islamic banks: 2010 - 2014

Number of Islamic banks with assets	Last Reporting Year	2010	Growth (%)
Above US10\$ billion	35	15	133.33
Between US3\$ billion to US9.99\$ billion	33	29	13.79
Between US1\$ billion to US2.99\$ billion	33	21	57.14
Below US1\$ billion	76	53	43.40
Total	177	118	50.00

Source: Bankscope

#### Table 2: Growth of Islamic Banking Assets: 2010 - 2014

Islamic Banks with Current Assets	Assets (US\$ million)	Assets in 2010 (US\$ million)	Growth (%)
Above US10\$ billion	967	479	101.88
Between US3\$ billion to US9.99\$ billion	190	170	11.76
Between US1\$ billion to US2.99\$ billion	63	35	80.00
Below US1\$ billion	25	17	47.05
Total	1,245	701	77.60

Source: Bankscope

ISLAMIC BANKING GROWTH, EFFICIENCY AND STABILITY 41 Table 1 shows that in total 59 more Islamic banks started reporting their assets – 50% more than their number in 2010. The largest growth in number was witnessed in the top category, i.e., the banks with assets more than US10\$ billion (133.33% growth).

Table 1, however, primarily refers to greenfield growth, i.e., the increase in the assets owing to increase in number of Islamic banks. We need to explore other factors contributing to growth.

Table 2 is consistent with Table 1. Like the growth in number of Islamic banks, the growth in Islamic banking assets has come from the banks with the highest amount of assets under management, i.e., the ones with assets above US10\$ billion. The lowest contribution comes from the middle sized Islamic banks.

With the help of the data given in Tables 1 and 2, we can estimate the greenfield and brownfield growth in Islamic banking assets between 2010 and 2014. Greenfield growth can be estimated by dividing the total growth in assets between 2010 and 2014 by the total number of Islamic

banks in 2014. This is a measure of average percentage growth in assets per Islamic bank between 2010 and 2014. This, when multiplied with the average increase in number of Islamic banks between 2010 and 2014, gives us estimated percentage average growth in Islamic banking assets purely due to increase in number of Islamic banks during the period under consideration. This is a rough estimate of the greenfield growth in Islamic banking assets during the period.

Brownfield growth in Islamic banking assets, defined as percentage average growth in Islamic banking assets purely due to increase in the size of operations of Islamic banks, is the residual growth in Islamic banking assets net of the greenfield growth.

Figure 1 presents classification of growth into brownfield and greenfield growth. It is clear from the figure that bulk of growth in Islamic banking assets is due to greenfield effect (over 87%) and a small proportion of growth is attributable to the brownfield effect (slightly less than 13).



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Figures 2 and 6 present graphical representation of classification of greenfield and brownfield growth in Islamic banking assets among different size segments of the global Islamic banking industry.

Figure 2 clearly indicates the predominant source of growth in the segment of large Islamic banks is actually the new Islamic banks. Growth in medium and small sized Islamic banks is primarily due to growth in business of the incumbent Islamic banks.

This is also the predominant trend confirmed by the full sample. Table 3 provides a summary of the results.

This is an interesting observation, which has implications for future growth in Islamic banking. Following are the most specific conclusions: 1. One should expect that while the number of Islamic banks will continue to grow, it is actually the size of Islamic banks that is going to contribute to the bulk of growth.

2. A major proportion of growth in Islamic banking will come from the largest Islamic banks. This means with the entry of any new large Islamic banks, the overall effect on the growth of Islamic banking will be more significant, as these banks will be able to reduce financial exclusion (voluntary or involuntary).

3. While it is still important to set up new Islamic banks in the countries where Islamic banking does not as yet exist, it is essential that existing Islamic banks should increase their size and capital base in their effort to further expand Islamic banking.

#### Table 3: Brownfield and Green Growth in Islamic Banking

Number of Islamic banks with assets	Greenfield Growth (%)	Brownfield Growth (%)
Islamic banks with assets exceeding US10\$ billion	22.38	77.62
Islamic banks with assets between US3\$ and US9.9\$ billion	99.8	0.20
Islamic banks with assets between US1\$ billion and US2.99\$ billion	83.38	16.62
Islamic banks with assets below US1\$ billion	93.82	6.18
All Islamic banks	87.07	12.93





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### Islamic Banking Assets

Islamic banking assets are concentrated in 15 countries (93.8%). The largest country in terms of Islamic assets – Iran – accounts for 34.87%. These figures suggest huge concentration risk global Islamic banking industry faces, especially in the wake of the oil-dependence of the leading countries' economies. Furthermore, economic sanctions on Iran – lifted only in 2015 – have also hampered the growth of global Islamic banking assets.

With the expected new geopolitical environment in the wake of easing of economic sanctions on Iran, one should expect even further concentration of the Islamic banking industry – which is expect to expose Islamic banking to even higher concentration risk<sup>8</sup>. The concentration risk of global Islamic banking industry is further substantiated by the share of top 10 Islamic banks in the word in the global Islamic banking. Table 4 lists the 10 largest Islamic banks in the world in terms of assets. These banks account for 36% of the global Islamic banking industry. The list is dominated by Iranian Islamic banks (4 out of 10) and the remaining 6 banks are also located in oildependent Muslim countries.

It is interesting to note that the four largest Islamic banks in Iran account for 57% of the national Islamic banking sector. The largest Islamic bank in Saudi Arabia – Al Rajhi Bank – accounts for 28% of the national Islamic banking sector. In case of Kuwait Finance House, the respective figure is 66% (the highest in our database). The largest Islamic bank in Malaysia – Maybank Islamic – has captured 29% of the national Islamic banking share. Similarly, the top 2 Islamic banks in the UAE represent 59% of the national Islamic banking assets.

#### Table 4: Top 10 Islamic Banks in Terms of Total Assets

Source: Bankscope

<sup>8</sup>However, one should be mindful

era, Iran would like to access the international Islamic capital markets by way

This may not have a direct effect on the Islamic banking assets – a focus of this report – in the first phase. With

Islamic banks will

of issuing Tier 1 Capital Sukuk, which many Islamic banks in the Middle

strengthen their



As Table 3 shows, Islamic banks stand at no comparison with their conventional counterparts on the basis of size. For example, the largest Islamic bank in terms of assets size – Bank Mellat – is on the number 236 in the global ranking of banks in terms of assets size.

When it comes to the shareholders' equity of the top 10 Islamic banks in the world, the picture changes significantly, as it gives in to the dominance of Saudi and other non-Iranian banks (see Table 5). The two largest Islamic banks in terms of shareholders' equity are AI Rajhi Bank (a privately owned Saudi Islamic bank, with shareholding from some of the government sector organisations) and Islamic Development Bank (a pan-Islamic bank, collectively owned by member states of the OIC). Although 3 Iranian banks still feature in the top 10 list of Islamic banks in terms of shareholders' equity, there is clear evidence that these banks are however less adequately capitalized as compared to their other Middle Eastern peers. All the three Iranian banks in the list have below average equity to assets ratio for the 10 banks included in the list (13%).

The most highly capitalized bank understandably is Islamic Development Bank, which has 50% equity to assets ratio, followed by Al Inma Bank (another private Saudi Bank), with equity to assets ratio of 22%.

Rank	Banks	Countries	Shareholders' Equity (US\$ Million)	Total Assets (US\$ Million)	Equity to Total Assets Ratio
1	Al Rajhi Bank	Saudi Arabia	11,172	82,056	14%
2	Islamic Development Bank	Saudi Arabia	11,004	21,889	50%
3	Kuwait Finance House	Kuwait	7,162	58,681	12%
4	Bank Saderat	Iran	6,084	59,110	10%
5	Dubai Islamic Bank	UAE	4,821	33,734	14%
6	Al Inma Bank	Saudi Arabia	4,784	21,563	22%
7	Bank Mellat	Iran	4,613	96,532	5%
8	Bank Melli	Iran	4,256	57,003	7%
9	Qatar Islamic Bank	Qatar	3,893	26,403	15%
10	Abu Dhabi Islamic Bank	UAE	3,726	30,471	12%
	Total		61,515	487,442	13%

#### Table 5: Top 10 Islamic Banks in Terms of Shareholders' Equity

Source: Bankscope

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The seven Middle Eastern banks other than the three Iranian banks have an average equity to assets ratio of 20%. This means that for the Iranian banks to improve their capital to match the equity to assets ratio of the other Middle Eastern banks, substantial injection of additional capital is required. For example, for Bank Saderat, Bank Mellat ad Bank Melli (the three banks included in the top 10 Islamic banks), it will require an additional total capital of US27,437\$ million to match the equity to assets ratio of 20%.

The corresponding figure for the additional capital required by these three banks to increase the equity to assets ratio of 13% will be US11,883\$ million – still a substantial amount.

The equity to assets ratios of other Islamic banks are even lower. For example, Maybank Islamic, the only Malaysian Islamic bank included in the top 10 Islamic banks in terms of assets size (see Table 3), has equity to assets ratio of only 5%, and the respective figures for additional capital required to match equity to assets ratios of 20%<sup>9</sup> and 13% will be US6,632\$ million and US3,218\$ million.

It is because of the size disadvantage and the relative smaller capital base of most of the Islamic banks that it is being increasingly felt to found a mega Islamic bank of a size comparable with a conventional bank. There have been attempts in the Middle East as well as in the Far East in this respect but so far no such attempts have been successful.

<sup>9</sup>This is based on the current assets held by the three banks. However, with the increase in capital, it is expected that the assets of these banks will also increase, requiring even higher amounts of additional capital

<sup>10</sup>Admittedly, Russia is an odd case. Bankscope includes data on an Islamic bank that is now no more in existence.

<sup>11</sup>Out of the four Turkish Islamic banks (known as participation banks), three have financing exceeding their deposits.

## Financing and Deposits

Financing to deposits (FTD) ratio – more commonly known as loans to deposits (LTD) ratio in conventional banking – can be used to assess Islamic banks' liquidity positions. For our global sample, FTD is 89.72%, meaning for every 1\$ in deposits, Islamic banks provide nearly 90c in financing. Therefore, it is reasonable to conclude that Islamic banks are in general safe, provided that they keep an eye on the liquidity mismatch arising from the tenures of deposits and financing. Table 6: Islamic Banking Deposits andFinancing by Islamic Banks



#### Source: Bankscope

Further breakdown of the sample is provided in Table 5 below that shown FTD for individual countries. Figure 7 highlights the depositsfinancing gap for the top 10 countries in terms of the volume of deposits and financing. Amongst the top 10 countries, Turkey is the only



country where Islamic banks provide financing in excess of their deposit base; all others have FTD less than 100%. Apart from Turkey, there are three other countries<sup>10</sup> (namely, Oman, Russia and Thailand) in our sample where financing by Islamic banks exceed Islamic deposits. However, Turkey is the only country that has any meaningful significance in this respect<sup>11</sup>.

This means that in terms of FTD, Islamic banks maintain a safe regime and are in general adequately liquid. CHAPTER TWO

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### IBF Without Islamic Banking

Apart from Islamic banking, all other segments of Islamic financial services industry have yet to attain critical mass. Islamic capital markets are only 19% of the global Islamic financial services industry (with sukuk representing 15% and Islamic funds another 4%).

Takaful industry has yet to assume significance with only 1% share in the global Islamic financial services industry. Islamic microfinance is also just 1% (see Figure 8).

More than 92% of the global Islamic banking assets are concentrated in 15 countries of the world. This implies that Islamic banking has yet to achieve global relevance in a meaningful way.

Out of 56 member countries of the Organisation of Islamic Cooperation (OIC), only about onefourth have Islamic banking as a significant activity.

### The GCC as a Hub of Islamic Banking

While the GCC remains a hub of Islamic banking, newly emerging markets in Africa and elsewhere will bring a new growth dimension to the industry.

In the last 10-15 years, leadership in Islamic banking has tilted away from the likes of Faisal Banks and Al Baraka Banking Group to the likes of Al Rayan Bank, Dubai Islamic Bank, Abu Dhabi Islamic Bank and Kuwait Finance House.

While Saudi Arabia remains the largest Islamic banking market (barring Iran), Qatari Islamic banks are now playing bigger roles in internationalizing Islamic banking. Qatar Islamic Bank has already expanded its presence in other countries like the UK, where it owns QIB UK, a fully-fledged Islamic investment bank in the country. In 2014, Masraf Al Rayan successfully completed acquisition of Islamic Bank of Britain and renamed it as Al Rayan Bank.



Figure 8: Composition of Global Islamic Financial Services Industry

Similarly, the likes of Dubai Islamic Bank, Kuwait Finance House and Al Rajhi Bank are playing an increasingly stimulating role in internationalizing of Islamic banking. With its presence in Pakistan, Sudan and Jordan, Dubai Islamic Bank is very aggressively pursuing its goal of becoming a pan-Islamic banking institution. Kuwait Finance House is already present in Bahrain, Turkey, Malaysia and Germany, and through its shareholdings in a number of other Islamic financial institutions, it has emerged as a global player in Islamic banking. For example, regulators should clarify that customers who opt to be investors are treated as such, and enjoy more say in governance as well as greater transparency in the determination of their payouts. More specifically, profit sharing investment account holders (PSIAs) with Islamic banks should be treated differently from saving account holders with conventional banks.

After all, the most distinguishing feature of Islamic banking is its long-term approach to saving and investing and profit and risk sharing associated with this.

#### Stability of Islamic Banking

When it comes to financial stability, it is important to build on progress in setting standards to harmonize the regulation and supervision of Islamic finance and to protect its consumers.

Basically, regulators need to approach this topic by first recognizing the unique features of Islamic banking.

### SUMMARY

The basic performance indicators of Islamic banks suggest that while the industry remains on a growth trajectory, concentration of Islamic banking assets in few markets, especially Iran, may pose a threat to stability of Islamic banking. Despite Islamic banking becoming a buzz word, it remains concentrated in the GCC and the wider MENA region, which have so far been the main hub for Islamic banking.

The recent decrease in oil prices in the international market may slow down growth of Islamic banking.



## **CHAPTER** THREE

## EFFICIENCY OF

## **ISLAMIC BANKS**

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ISLAMIC BANKING GROWTH, EFFICIENCY AND STABILITY

### Introduction

The structure of Islamic banking has changed substantially over the past decades, partially as a result of adoption of new technologies and process of reforms and accompanying deregulation has embodied an incentive for managers of Islamic banks to focus on improving efficiency. Coupled with increased dynamism of the global economic environment and challenges of disruptive changes that banks face, Islamic banks are pressured to operate on an efficient level if they are to remain competitive. And as competition in the financial services industry heats up, the long-term viability of banks depends largely on how efficient they are operating. Despite the rapid growth of the Islamic banking and finance industry, empirical evidence on the efficiency of Islamic banks is still in its infancy. CHAPTER THREE

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### What is Efficiency?

Efficiency refers to the utilisation of resources in such a way as to maximise production. This means that output cannot be enhanced without increasing inputs. In the banking literature, the term "efficiency" is used to describe the performance of a commercial bank. As such, the efficiency of a firm is usually measured in terms of minimisation of inputs to produce a specific level of output or maximisation of output at a given level of input.

Berger et al. (1993) noted that efficiency of banks will be translated into improved profitability, greater amounts of funds intermediated as well as better prices and service quality for consumers.

Farrell (1957) was the first to study efficiency of a firm. By measuring efficiency and productivity at the micro level, he offered insights into two issues: how to define efficiency and productivity, and how to calculate the benchmark technology and efficiency measure.

Based on his study, Farell proposed efficiency to be measured in two components: technical efficiency and allocative efficiency. Together, these two measures represent a total efficiency measure (Coelli et al., 1997). Allocative efficiency is the ability of a firm to use input and/or outputs in optimal proportions, given their respective prices and given production technologies (Coelli et al., 1998). Allocative efficiency is also termed as price efficiency, see Lovell (1993). According to Falkena et al. (2004), a firm is technically efficient if it uses the available inputs (labour, capital and technology) in the most effective way in order to produce the maximum output.

If a firm is both allocatively and technically efficient, then it is said to be cost efficient (Mester, 1997).

However, when measuring efficiency of banks, Berger and Mester (1997) proposed the use of three efficiency concepts - cost, profit and alternative profit efficiency. Cost efficiency of banks is measured by comparing observed costand output-factor combinations with optimal combinations determined by the available technology (Fiorentino et al., 2006). In contrast, profit efficiency is achieved when bank maximises profit for a given combination of inputs and outputs. The alternative profit efficiency concept, however, measures how close a bank is to generating maximum profits given its output levels instead of output prices (Isik & Hassan, 2002).

The efficiency of banks is influenced by different factors in which production takes place. This includes the size of the bank, the age of the bank, the region in which the bank is operating in, competition, input and output quality, network characteristics, ownership form, regulations and changes in regulation, and management characteristics (Shamsher et al., 2008).

According to Carvallo and Kasman (2005), global liberalisation of financial markets coupled with increasing use of advanced technology as well as the information revolution have put competitive pressure on banks at both the domestic and international level. In emerging markets (where many Islamic banks are operating), such competitive advantage is crucial as banks in these markets are the main financial intermediaries to channel savings and investment. In this context, the competitive advantage of Islamic banks is enhanced if they can function efficiently.

### Studies on Performance and Efficiency of Islamic Banks

Existing literature on performance of Islamic banks can be classified into two areas of studies. The first area of study examined the efficiency of Islamic banks and compared them with conventional banks and Islamic windows operation<sup>12</sup>.

Several comparison studies have shown higher efficiency of Islamic banks compared to conventional banks.<sup>13</sup>The second approach investigated performance of Islamic banks and tested whether they exhibited improved efficiency over time<sup>14</sup>.

All these studies adopted a number of methods in assessing and measuring banks' performance, which can be further classified into parametric or non-parametric analysis as shown in Figure 1 below.



<sup>12</sup>Samad, 1999; Rosly and Abu Bakar, 2003; Hassan et al., 2003; Al-jarrah and Molyneux, 2003, Al-Shammari, 2003; Hussein, 2004; Bader, Shamsher, and Taufiq, 2007; Shamser et al.,

<sup>13</sup>Bashir, 1999; Samad and Hassan, 1999; Hassan and Bashir, 2003; Hussein, 2004.

<sup>14</sup>Samad and Hassan, 1999; Iqbal, 2001; Yudistira, 2004; Brown and Skully, 2005; Moussawi and Obeid, 2010; Hassinea and Limani, 2014. A common and frequent parametric method of assessing Islamic bank's performance involves financial ratio analysis. A number of studies used ratios to measure the performance of banks in terms of profitability, liquidity, risk, capital adequacy and efficiency. Analysing the efficiency ratios of Bank Islam Malaysia Berhad and comparing them with conventional banks in Malaysia over the period 1992 to 1996, Samad (1999) concluded that Bank Islam was more efficient than its conventional counterparts.

Similar result was reported by Iqbal (2001) when he analysed the performance of 12 Islamic and conventional banks (of equivalent size) using both trend and ratio analysis between 1990 and 1998. Comparing their performances, he established that Islamic banks as a group outperformed conventional banks and concluded that Islamic banks were more cost effective and profitable than their conventional peers. Hassoune (2002), on the other hand, reported that although Islamic banks in the GCC were found to be more profitable than conventional banks, they are less efficient due to their high exposure to risk in comparison to other types of financial institutions. As pointed out by Srairi (2009), Islamic banks usually take on more risk than conventional banks due to lack of experience and unfamiliarity with all the financial tools that could assist them. Hence, Islamic banks would require more capital to manage higher level of risk.

Rosly and Abu Bakar (2003) studied the performance of Islamic banking scheme (IBS) banks in Malaysia from 1996 to 1999 using financial ratios such as return on assets, return on deposits, asset utilisation and operating efficiency ratio. Results of their study showed that IBS banks recorded higher return on assets than mainstream banks. However, their findings suggested that higher return on assets for IBS banks (due to lower overhead expenses) does not imply efficiency. Hence, interest-like products such as credit finance offered by Islamic banks will unlikely motivate them to strive for efficiency in both scope and scale economies.

Saleh and Zeitun (2006) investigated the performance of Islamic banks in Jordan using performance indicators such as: profitability, capital structure and liquidity. Analysing financial ratios between 2000 and 2003, they found that the efficiency of both Islamic and conventional banks had increased overtime due to short-term investment. When comparing compare the performance of Islamic and conventional banks in the United Arab Emirates, Kader et al. (2007) reported that Islamic banks were more profitable, more efficient, less liquid and less risky. Based on their findings, they concluded that the saving profit and loss (SPL) principle was the main source of efficiency.



The financial performance of Islamic banking sector and conventional banking sector in Pakistan was analysed by Sehrish et al. (2012). The overall results indicated that Islamic banks are less risky in terms of dealing in loans but at the same time were less efficient in expense management. Operating inefficiency of Islamic banks had increased in tandem with asset utilisation, which implies that Islamic banks faced higher costs as compared to their operating income.

A cross-country analysis of 43 Islamic banks in 21 countries over the period of 1994-2001 by Hassan and Bashir (2003) revealed i) a positive relationship between capital and profitability, ii) a negative relationship between loans and profitability and iii) a negative relationship between total assets with profitability.

Bader et al. (2007) measured the efficiency of Islamic banks and conventional banks based on different sizes and ages of banks and their locations. They explored the cost, revenue, and profit efficiencies using financial ratios for the period 1990-2005 in 21 countries in Africa, Asia, and the Middle East. They reported no significant difference in efficiency scores between both of bank streams. Further analysis shows positive relationship between size of total assets and efficiency level. However, regional analysis didn't find any significant difference in efficiency of Islamic and conventional banks.

Other studies that focused on efficiency of Islamic banks applied frontier analysis - the stochastic frontier analysis (parametric method) and data envelopment analysis (non-parametric method), to evaluate their performances and efficiency. Igbal and Molyneux (2005) argued that whilst standard financial ratio analysis is useful to measure the performance of Islamic banks, this approach is limited in scope and hence, is only suitable for benchmarking purposes. Primarily because they take a one-dimensional view of a service, product or process and ignore any interactions, substitutions or trade-offs between key variables. Thus, making frontier approaches far more superior when measuring performance of firms and their managers.

Mokhtar et al. (2006) used stochastic frontier approach (SFA) to measure technical and cost efficiency of Islamic banks in Malaysia. They



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reported that, on average, the performance of Islamic banks increased during the period of study while conventional banks remained stable. However, Islamic banks had lower efficiency level than that of their conventional peers. But when comparing between full-fledged Islamic banks and Islamic windows, the former were found to be more efficient. They also reported that Islamic window of foreign banks tend to be more efficient than those of domestic banks. Similarly, Abdul-Majid et al. (2011) reported that overtime full-fledged Islamic banks had overcome some cost disadvantages as a result of rapid technical change. But this was not the case for Islamic windows.

Employing similar methodology, Shamsher et al. (2008) examined bank efficiency of the Organisation of Islamic Conference (OIC) countries. Their results indicated that Islamic banks and conventional banks were inefficient in terms of resource utilisation. However, they found evidence to suggest that profit efficiency of these banks was more stable over time compared to cost efficiency. In contrast to Bader et al. (2007), their results showed no significance difference in efficiency scores between big versus small and new versus old banks in both banking streams. However, big banks (which are generally conventional banks) were found to be more profit efficient than small banks (mainly Islamic banks). As such Shamser et al. (2008) concluded that size and age did not affect the performance of Islamic and conventional banks. The finding is inconsistent with the expectation that big banks are more cost efficient than small banks (Bader et al., 2007; Bos and Kolari, 2005 and Isik and Hassan, 2003).

The efficiency of banks across 17 countries in the Middle East, Asia, Africa and the UK was examined by Kablan and Yousfi (2013). Their sample included 340 observations over the period 2001-2008. Whilst commercial banks were generally found to be more efficient than Islamic banks, countries that had reformed their banking sector to improve the competitiveness of the Islamic banking sector tend to have higher efficiency scores. Hence, notable differences in efficiency scores were found among regions with Asia having the highest score at 84.64%. Based on these findings, they argued Islamic banks efficiency could be improved through reforms that would enable Islamic banks to compete on a more level playing field. They also examined factors that drive efficiency of



Islamic banks and found that market power and profitability have a positive impact on Islamic banks efficiency, whilst size impacted efficiency negatively.

Irfan et al. (2014) investigated the performance and efficiency of Islamic banks in four South Asian countries (Pakistan, Iran, Bangladesh and Brunei) from 2004 to 2011. They used return on asset (ROA), return on equity (ROE) and net profit ratio (NP) as the output variables and reported that Islamic banks are on average efficient. Whilst ROA is found to be more efficient as the financing mode; financing based on musyarakah, mudarabah and istisna is cost effective in ROA and ROE.

The technical efficiency of Saudi banking sector in mobilising deposits, allocating investments and generating income was studied by Sillah et al. (2014). A sample of 12 banks (including Saudi-owned banks, Saudi-foreign owned banks and Islamic banks) over the period 2000 to 2011 was used in the study. Findings from SFA point out that bank capital and labour are significant relevant factors for deposit mobilization.

Another method to assess the performance of Islamic banks is to compute their efficiency

using the non-parametric Data Envelopment Analysis (DEA) method, which is considered superior than parametric method as the former distinguishes between the overall, technical, pure technical, allocative and scale efficiencies. DEA approach involves constructing a nonparametric production frontier based on the actual input-output observations relative to which efficiency of each firm is measured (Coelli, 1996). By examining bank data using the DEA approach, factors that have direct impact on the efficiency of Islamic banks can be further analysed. Sherman and Gold (1985) were the first to apply DEA to estimate bank's efficiency.

However, one of the earliest researchers to analyse efficiency of Islamic banks using the DEA approach was Yudistira (2003). His sample included 18 Islamic banks over the period 1997 to 2000. His results indicated that overall Islamic banks were efficient across the sample period with the year 2000 being the most efficient – recording the highest efficiency score of 0.909 compared to 0.870,0.902, and 0.897 for the years 1997,1998 and 1999 respectively. He argued that the lowest efficiency score recorded in 1998 was attributed to the financial crisis and was due mainly to pure technical inefficiency rather than scale inefficiency.



These findings are inconsistent with Hassan (2003) who studied the efficiency of Islamic banks in Pakistan, Sudan and Iran from 1994 to 2001.<sup>15</sup>He highlighted that the main source of overall inefficiency of Islamic banks is due to scale inefficiency. In another study, Hassan (2005) examined the relative cost, profit, X-efficiency and productivity of 43 Islamic banks in 21 countries during the period 1994-2001. Results of this study suggest that the dominant source of inefficiency amongst Islamic banks is allocative efficiency rather than technical efficiency. He also found that Islamic banks are relatively less efficient in reducing costs, but are efficient in generating profits.

Adopting the same approach as Yudistira (2003), Sufian (2006, 2007) examined the efficiency of Islamic banks in Malaysia and found evidence that Islamic banks improved their efficiency slightly over the period investigated but reported that scale inefficiency of Islamic banks dominated pure technical inefficiency.

Sufian et al. (2014), Yahya et al. (2012), Hadi and Saad (2010) and Kamaruddin et al. (2008) also studied efficiency of Islamic banks in Malaysia using the DEA approach. The former employed DEA to compute revenue efficiency and returns to scale of 17 domestic and foreign Islamic banks over the period of 2006 to 2010. The authors found evidence to suggest that revenue efficiency is the main factor influencing the profit efficiency levels of these banks.

Whilst Yahya et al. (2012) reported no significant difference in the level of efficiency between Islamic and conventional banks, Kamaruddin et al. (2008) found evidence to show that Islamic banks were relatively more efficient at controlling costs than at generating profits. Analysing the panel data of 12 Islamic banks, Hadi and Saad (2010) found empirical evidence to suggest that scale efficiency dominates the pure technical efficiency and is the determining factor when measuring the overall efficiency of the Islamic banking sector in Malaysia.

Hassan (2006) studied efficiency of Islamic banks using both parametric (cost and profit efficiency) and non-parametric (DEA) techniques. On average, Islamic banks were found to be relatively less efficient than conventional banks. When measured efficiency of Islamic banks in terms of ROA and ROE, findings pointed out to a high correlation between these financial ratios and efficiency scores. The five DEA efficiency measures used were cost, allocative, technical, pure technical and scale efficiency.

Bank efficiency of the Organisation of Islamic Conference (OIC) was analysed by Bader et al. (2008). The sample included 43 Islamic banks and 37 conventional banks from 1990 to 2005. The study examined the effect of size, age, and region on cost, revenue, and profit efficiency. In terms of overall inefficiency, no significant differences were reported between Islamic banks and conventional banks. However, they found that both banks are less efficient in generating revenue and profits as opposed to utilising resources. This implies that the caused of the efficiency can be attributed to the ability of managers in controlling the use of bank's internal resources rather than generating revenue.

The efficiency of Islamic banks across a number of countries was examined by Brown and Skully (2009). Their sample included 20 Islamic banks in 11 countries. However, the cross-country analysis did not find any obvious pattern between profitability, Islamic financing and efficiency. They attributed these findings to several factors including the different stages of development across the banks investigated and the regulatory environments these banks were operating in. Ahmad and Noor (2011) investigated the efficiency of 78 Islamic banks across 25 countries and reported a positive relationship between profitability and technical efficiency. Sahut et al. (2015) found empirical evidence of a positive relationship between efficiency of Islamic banks and the degree competitiveness. This implies that Islamic banks operating in a monopolistic sector are more efficient.

When examined bank efficiency of conventional and Islamic banks in Pakistan, Shahid et al. (2010) reported that conventional banks had higher level of cost and technical efficiency than Islamic banks. The authors cited two reasons for their findings – conventional banks have better adoption of technology and very long history and experience as compared to Islamic banks.

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Tahir et al. (2011) studied Islamic bank efficiency in four regions - Africa, the Far East and Central Asia, Europe and the Middle East. Their results suggest that inefficiently of Islamic banks in these regions is largely due to pure technical efficiency. They also found empirical evidence to suggest that there are significant differences in terms of the efficiency between sizes but not between regions.

Comparing efficiency of Islamic banks in Middle Eastern and North African (MENA) and Asian countries, Abdul Rahman and Rosman (2013) found that the main source of inefficiency among Islamic banks is the scale of their operations. They also concluded that specific environmental factors and economic conditions of the country directly are the main determinants of efficiency of Islamic banks. Said (2013) measured overall technical efficiency of Islamic banks operating in the MENA region during the financial crisis of 2007-2009. Empirical results suggest that Islamic banks were technically inefficient, which he attributed to the underdeveloped banking system in the region. Similarly,

Hassine and Limani (2014) reported that technical inefficiency dominated allocative inefficiency of Islamic banks in MENA. In a separate study by Said (2013), he examined the correlation between risks and efficiency of Islamic banks in the MENA region. Based on empirical results, he concluded that while credit risk and operational risk were negatively correlated to efficiency; liquidity risk had insignificant relationship to efficiency.

Rami et al. (2013), Kamarudin et al. (2014), Zeid et al. (2013) and Johnes et al. (2009) explored bank efficiency in the GCC countries. The former analysed data of 65 conventional and Islamic banks during the period from 2002 to 2010. Empirical results suggest that overall Islamic banks are less efficient than conventional banks. Similar findings were reported by Kamarudin et al. (2014) when examining the revenue, cost and profit efficiency of 74 banks (47 conventional and 27 Islamic banks) from 2007 to 2011. Results of their findings showed that that Islamic banks exhibited lower efficiency levels for all three efficiencies measures vis-à-vis the conventional banks. They also reported that revenue efficiency is strongly related to profit efficiency levels.

Using both financial ratio analysis and DEA analysis, Johnes et al. (2009) examined the efficiency of Islamic and conventional banks in the GCC countries. Based on six financial ratio analyses, they found that Islamic banks are less cost effective but more profit and revenue efficient as compared to conventional banks. On the other hand, using DEA, they found that Islamic banks had lower total efficiency score than conventional banks. Zeid et al. (2013), on the other hand, investigated the efficiency of Islamic bank around the subprime crisis of 2008 and reported that Islamic banks in the GCC countries remained efficient during the global financial crisis.



CHAPTER THREE OVERVIEW OF

ISLAMIC BANKING

PERFORMANCE INDICATORS

EFFICIENCY OF ISLAMIC BANKS

MEASUREMENT OF FEEICIENCY OF ISLAMIC BANKS

#### Conclusion

undergone Despite having considerable developments during the past few decades, empirical evidence on profitability, efficiency and stability of the Islamic banking sector is still in its infancy. Previous literature<sup>16</sup> has compared the profitability of Islamic and conventional banks, using comparative ratio analysis. A myriad of studies have examined the performance of Islamic banks using financial ratios<sup>17</sup>. Several other studies<sup>18</sup> have examined the efficiency of Islamic banks and compared them with conventional banks and Islamic windows operation. Moreover, competitive conditions are likely to affect bank performance and efficiency<sup>19</sup>, in addition to equity capitalization levels<sup>20</sup>.

In fact, several authors<sup>21</sup> have investigated the importance of competitive conditions on bank profitability, distinguishing among Islamic and conventional banks and using a variety of key indicators (traditional concentration measures, the PR-statistic, and the Lerner index).

Some studies<sup>22</sup> have examined bank-specific factors of profitability (e.g., size, revenue growth, risk, and control of expenses), while cross-country investigations<sup>23</sup> have considered external factors (e.g., inflation, concentration, and GDP growth), in addition to a few internal factors of profitability.

The results from many of these previous studies comparing the performances of Islamic and conventional banks are unsatisfactory for several reasons. First, large proportion of the studies is based on small samples (particularly of Islamic banks). Second, where sample sizes are large, the data have often been collected across a variety of countries with very different economy size. Third, the significance of the differences in performance between the two types of banking is often not tested. Studies have generally employed few financial ratios - mainly return on assets (ROA) and return on equity (ROE) – to examine the performance of the banks. Forth, previous studies do not provide clear answers whether and how the profitability, cost efficiency and stability differ between conventional and Islamic banks. This ambiguity

is exacerbated by lack of clarity whether the products of Islamic banks follow Shari'a in form or in content.



16Samad, 1999; Hassan, 1999; Hassoun, 2002;

17Samad, 2004; Wibowo and Saptutyningsih, and Bashir, 2005; Widago and Ika, 2007; Hassan and Dridi, 2010; Ika and and Hassan, 2002

<sup>18</sup>Isik and Hassan 2002; Hassan and Yudistira, 2004; Mokhtar et al., (2008,2006); Kamaruddine 2008; Sufian et al. 2008; Al-Faraj et al., 1993: Darrat et al. 2002; Grigorian and Manoe, 2005; Al-Tamimi and Loutah, 2007; Ramathan, 2007; Sufian, Srairi, 2010; Eihák and Hesse, 2010; Ben Ali and Sghaier 2012; Ahmad and Abdul Rahman

<sup>19</sup>Berger and Mester 2003 20 Schaeck and

<sup>21</sup>Panzar and Rosse, 1987

Cibak 2007

and Bashir, 2003; Zulkhibri and Sufian, 2007; Turk-

<sup>22</sup>Kosmidou et al., and Goaied, 2008; et al., 2005

<sup>23</sup>Hassan and Valverde and

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CHAPTER THREE

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## **CHAPTER** FOUR

# MEASUREMENT OF EFFICIENCY OF ISLAMIC BANKS

OUR METHODOLOGY Data and Results 7 () 7 5 IMPORTANT FINDINGS

(6)

ISLAMIC BANKING

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#### Introduction

Efficiency in general describes how well a resource is used to fulfil its defined purpose. It is simply a measure of optimal output considering the inputs utilised with regards to the time, effort, money and other resources used in the process. A proposition is efficient if the input mix maximises output. Efficiency can take various forms across a wide range of fields. In economics, optimal economic efficiency is achieved when an enterprise provides goods and services for society where the marginal cost of producing a good is equal to its marginal revenue.

In business, efficiency refers to how much needs to be spent in order to maximise output.

As financial markets became more integrated and decentralised, it has become increasingly important to measure the efficiency of banking institutions. As mentioned in the previous chapter, Farrell (1957) was one of the first to discuss productive efficiency. He proposed that the efficiency of a firm consists of two components:

1. Technical Efficiency – The measure of the effectiveness by which a given set of inputs is utilised to produce an output. A firm is said to be technically efficient when it generates the maximum output possible from the given set of inputs, such as labour, capital and technology. It would be technically inefficient, when given a set of chosen inputs, output falls short of the ideal. 2. Allocative Efficiency - The formula, setup or configuration according which available resources to are apportioned in order to maximise output in view of the cost of the inputs and their production technologies. Farrell (1957) termed allocative efficiency as 'price efficiency'. A firm would be allocatively inefficient where there is suboptimal level of input choice given prices and output. Combining the two types of efficiency grants us a measure of total economic efficiency.

Farrell (1957) illustrated the idea with the example of a firm that has two inputs and only one output. In Figure 1, we see the relationship between two inputs: X1 and X2. The isoquant curve represents a production frontier of fully efficient firms, each point of which indicates that the firm is technically efficient. Assuming that the firm produces at point A, it will be regarded as being technically inefficient.

Inputs would have to be proportionately reduced by the distance AB. However, the firm cannot be considered allocatively efficient either. The isocost line represents the input price ratio, upon which the firm would be considered to be allocatively efficient. The distance AD represents the allocative inefficiency.

In order to be both allocative and technically efficient, the firm has to reduce its production costs by the distance CD to reach the economic efficiency at point C, where the isoquant line touches the isocost line.

20%

21%

CHAPTER FOUR





The two approaches used to assess the productive efficiency of an entity, parametric (or econometric) and non-parametric (mathematical programming), employ different techniques to envelop a data set with different assumptions for random noise and for the structure of the production technology.

The programming approach is non-stochastic, grouping noise and inefficiency together to create an "inefficiency" vector. Non-stochastic programmes are built on the findings and observation of population and assess efficiency relative to other observed units.

The production frontier of fully efficient firms is not known in practice. It can only be estimated from observations on a sample of firms within the industry.

DEA is a non-parametric approach to determine the efficient frontier of a production technology and estimate the relative efficiencies of a set of decision-making units (DMUs).

The advantage of a non-parametric approach is that it is not necessary to assume a certain functional form for the production frontier removing subjectivity from the analysis. DEA calculates the relative efficiency of each DMU in relation to all the other DMUs by using the actual observed values for the inputs and outputs of each DMU. It also identifies, for inefficient DMUs, the sources and level of inefficiency for each of the inputs and outputs. As the DEA was developed in a public sector environment in which prices were rarely considered, the vast majority of previous DEA studies only estimate technical efficiency. Efficiency figures will only consider technical efficiency and not allocative efficiency.

#### Our Methodology

This study uses an innovative approach that best suits the available data on Islamic banks. As mentioned in Chapter 2, data on Islamic banks is at best incomplete. This makes it difficult to use any of the techniques mentioned in Chapter 3. Hence, we have adopted an approach that attempts to estimate Output Efficiency and Cost Efficiency by using data on deposits and financing (as outputs) and expenses as input. Assets and capital (equity) are used as measures of size of the banks, and earnings are used as an indicator of profitability.

This is a direct approach to measuring efficiency. Although based on a non-parametric approach, it is significantly different from the DEA. For the ease of reference, it will be called HD Approach, naming it after Humayon Dar who developed it. Although other approaches are more rigorous

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academically, the HD Approach is the second best for measuring efficiency of Islamic banks that have very limited data available.

Following the approach of the DEA analysis, we estimate the performance of each Islamic bank relative to the best performing Islamic bank, with respect to a chosen set of variables (financing, deposits, expenses and earnings).

Figures 2 and 3 represent our methodology graphically.

Panel A in Figure 2 presents two banks (Bank 1 and Bank 2), out of which Bank 2 is the bestperforming in terms of financing and deposits<sup>24</sup>. Bank 1 is the biggest bank in terms of assets size and equity.

Panel B maps these banks in a Financing-Equity space. As Bank 2 is best –performing bank in terms of financing, the Panel B shows that Bank 2 extends F2, which is greater than F1 extended by Bank 1 (i.e., F2 > F1).

Panel C maps the two banks in a Financing-

Deposits space. As stated above, Bank 2 is assumed to be the best-performer in terms of financing and deposits, and this is reflected by F2 > F1 and D2 > D1. In the actual sample, a bestperforming bank with respect to financing may in fact be different from a best-performing bank with respect to deposits.

Panel D is a mere convertor allowing us to switch the Financing variable from y-axis to x-axis (in Panel E).

Panel F is also a 450 line converting the variable on x-axis into a y-axis variable. Panel G plots deposits against equity capital of the banks.

In Figure 3, Bank 1 (the biggest bank in terms of assets and equity capital) and Bank 2 (the best-performing bank in terms of earnings and the least-performing bank in terms of expenses) are represented in the same way as in Figure 2. The Panels in Figure 3 depict the underlying methodology for determining Expense Efficiency Coefficient and Earning Efficiency Coefficient.

The HD Approach is based on four efficiency coefficients:

#### **Financing Efficiency:**

which is determined by the assets-adjusted financing of an Islamic bank with respect to

the bank that extends the maximum amount of financing (the best-performing bank with respect to financing). Financing Efficiency Coefficient (a1) can be defined as:

$$a_1 = \frac{F_i - F_{max}}{A_i - A_{max}}$$

Where

 $F_i$  = Financing offered by Bank i

 $F_{max}$  = Financing offered by the bestperforming bank

 $A_i$  = Assets held by bank i; and

 $A_{max}$ = Assets held by the bank with the highest amount of assets

*a*<sub>1</sub> is the reverse of the slope of the Assets-Financing Line in Panel E in Figure 2 assuming that Bank 2 is the bestperforming bank in terms of financing and deposits but in reality it is possible that a bank that performs best in terms of financing may not be the best performing bank in terms of deposit collection.

<sup>24</sup>Here we are



# Figure 2: Output Efficiency Divided into Financing Efficiency and Deposits Efficiency



# Figure 3: Cost Efficiency Divided into Expenses Efficiency and Earnings Efficiency

### **Deposits Efficiency**:

which is determined by the capital-adjusted deposits of an Islamic bank with respect to

the banks that collects the maximum amount of deposits (the best-performing bank with respect to deposits). Deposits Efficiency Coefficient (a2) can be defined as:

$$a_2 = \frac{D_i - D_{max}}{E_i - E_{max}}$$

Where

 $D_i$  = Deposits collected by a bank i

D<sub>max</sub>= Deposits collected by the best-forming bank in terms of deposits collection

 $E_i$  = Equity capital of the bank i; and

 $E_{max}$  = Equity capital of the bank with the highest equity capital in the sample

 $a_2$  is the slope of the Deposits-Equity Line in Panel G of Figure 2

### **Expenses Efficiency:**

which is determined by the size<sup>25</sup>-adjusted expenses of an Islamic bank with respect to

the bank incurring the maximum amount of expenses (the least-performing bank with respect to expenses). Expenses Efficiency Coefficient (b1) can be defined as:

$$b_1 = \frac{EX_i - EX_{max}}{A_i - A_{max}}$$

### Where

 $EX_i$  = Expenses incurred by a bank i

*EX<sub>max</sub>*= Expenses incurred by the least-performing bank in the sample, in terms of expenses

 $E_i =$  Equity capital of the bank i; and

*A* max<sup>=</sup> Equity capital of the bank with the highest equity capital in the sample

 $b_1$  is the reverse of the slope of the Assets-Financing Line in Panel E in Figure 3

<sup>25</sup>Total assets are used as a measure of the size of the bank



#### Earnings Efficiency:

which is determined by the capital-adjusted earnings of an Islamic bank relative to

the bank that earns the most (the bestperforming bank with respect to earnings). Earnings Efficiency Coefficient (b2) can be defined as:

$$b_2 = \frac{ER_i - ER_{max}}{E_i - E_{max}}$$

Where

 $ER_i =$  Earnings of a bank i

 $ER_{max}$  = Earnings of the banks with the highest amount of earnings, in the sample

 $E_i =$  Equity capital of the bank i; and

 $E_{max}$  = Equity capital of the bank with the highest equity capital in the sample

Output Efficiency is defined with respect to the Financing Efficiency and Deposits Efficiency, and is a linear combination of the two, i.e.,  $\alpha = a1 + a2$ , where is Output Efficiency Parameter.

Cost efficiency, on the other hand, is a linear combination of Expenses Efficiency and Earnings Efficiency, i.e.,  $\beta = b1 + b2$ , where  $\beta$  is Cost Efficiency Parameter.

Total Efficiency is defines as a linear combination of Output Efficiency and Cost Efficiency, and is represented in this report as  $\gamma = \alpha + \beta$ .

The HD Approach to Islamic bank efficiency is necessarily a vector approach to measuring bank efficiency.

# Data and Results

Bankscope provides data on about 170 Islamic banks worldwide out of which some we had to exclude 35 Islamic banks due to incompleteness of data.

We used the latest available data on the following variables for 132 Islamic banks from 33 countries.

There were 7 variables used in the analysis, given in Table 1, along with their average values and standard deviations.

Personnel expenses and interest<sup>26</sup> expenses were lumped together to use an aggregated figure for total expenses.

As the table suggests, all the variables have sufficient variation, making our analysis statistically significant.

<sup>26</sup>We are using the term interest expense to denote expenses related with murabaha, salam and ijara etc. Islamic banks use the term interest expense when reporting the data to Bankscope as there is no separate entry for Islamic modes of financing.

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CHAPTER FOUR OVERVIEW OF

OVERVIEW OF PERFORMAN ISLAMIC BANKING INDICATORS

PERFORMANCE EFFICIENCY INDICATORS OF ISLAMIC BANKS MEASUREMENT OF EFFICIENCY OF ISLAMIC BANKS

#### Table 1: Variables Included in the Analysis

Variables	Number of Observations	Mean ('000 US\$)	Standard Deviation ('000 US\$)
Assets	132	7,545,772	14,034,927
Equity	132	768,006	1,286,614
Financing <sup>27</sup>	132	4,403,380	8,305,407
Deposits	132	5,207,018	9,761,808
Personnel Expenses	132	67,958	144,883
Interest Expenses	132	271,486	789,321
Total Expenses	132	339,443	901,568
Operating Income	132	286,429	574,542

# Important Findings

Our results show that Kuwait Finance House (KFH-Kuwait) is the most efficient Islamic bank in the world, in terms of total efficiency.

However, it does not outperform other banks in all the components of our measure of efficiency. While in terms of Output Efficiency, it outperforms all other banks with the perfect score of 1, Al Inma Bank (Saudi Arabia) is the most cost efficient Islamic bank in the world. Bank Mellat (Iran) is the most efficient bank in the world in terms of provision of financing and management of expenses; however overall it is the worst bank in our sample. This is perhaps because of the lack of profitability of the bank and the problems it has faced in its international banking operations. Bak Saderat, another Iranian bank, is the most efficient in terms of deposit collections.

Table 2 ranks 132 Islamic banks drawn from all over the world, in terms of their overall efficiency.

Top 20 most efficient Islamic banks come from 7 countries, including Kuwait (1), Saudi Arabia (2), Iran (5), UAE (4), Qatar (4), Malaysia (2) and Bahrain. It is interesting to note that it is only Malaysia outside the GCC and Iran, which features in the top 20 list.

<sup>27</sup>Bankscope uses the term loans for financing but we prefer to use financing as it better reflects the operations of Islamic banks.

Bank Name	Country	Efficiency Score	Efficiency Rank
Kuwait Finance House	Kuwait	0.9016	1
Alinma Bank	Saudi Arabia	0.6653	2
Bank Melli Iran	Iran	0.6101	3
Bank Saderat Iran	Iran	0.6001	4
Dubai Islamic Bank	UAE	0.5930	5
Qatar Islamic Bank	Qatar	0.5564	6
Bank Rakyat	Malaysia	0.5280	7
Masraf Al Rayan	Qatar	0.5262	8
Abu Dhabi Islamic Bank.	UAE	0.5170	9
Bank Sepah	Iran	0.5064	10
Barwa Bank	Qatar	0.4833	11
Al Hilal Bank	UAE	0.4748	12
Qatar International Islamic Bank	Qatar	0.4736	13
Bank of Industry and Mine	Iran	0.4728	14
Sharjah Islamic Bank	UAE	0.4715	15
Kuwait Finance House	Bahrain	0.4689	16
Maybank Islamic	Malaysia	0.4687	17
Parsian Bank	Iran	0.4684	18
Bank Al Bilad	Saudi Arabia	0.4683	19
Albaraka Banking Group	Bahrain	0.4673	20
Bank Pasargad	Iran	0.4670	21
Boubyan Bank	Kuwait	0.4650	22
Al-Salam Bank	Bahrain	0.4650	23
Turkiye Finans Katilim Bankasi	Turkey	0.4648	24
Bank AlJazira	Saudi Arabia	0.4644	25
Kuwait International Bank	Kuwait	0.4642	26
Bank Islam Brunei Darussalam	Brunei Darussalam	0.4639	27
Kuwait Finance House (Malaysia)	Malaysia	0.4612	28
Noor Bank	UAE	0.4612	29
Kuwait Turkish Participation Bank	Turkey	0.4607	30
Ithmaar Bank	Bahrain	0.4605	31
Emirates Islamic Bank	UAE	0.4603	32
Bank Nizwa	Oman	0.4600	33
Ibdar Bank	Bahrain	0.4598	34
RHB Islamic Bank	Malaysia	0.4593	35

# Table 2: Ranking of Islamic Banks in Terms of Overall Efficiency

# Table 2: Ranking of Islamic Banks in Terms of Overall Efficiency (Contd.)

Bank Name	Country	Efficiency Score	Efficiency Rank
Bank of London and The Middle East	UK	0.4588	36
CIMB Islamic Bank	Malaysia	0.4585	37
ABC Islamic Bank	Bahrain	0.4585	38
Alizz Islamic Bank	Oman	0.4582	39
Warba Bank	Kuwait	0.4581	40
Public Islamic Bank	Malaysia	0.4579	41
Khaleeji Commercial Bank	Bahrain	0.4572	42
National Islamic Bank	Iraq	0.4572	43
Bank Islam Malaysia	Malaysia	0.4570	44
International Development Bank for Investment & Islamic Finance	Iraq	0.4569	45
Bank Muamalat Malaysia	Malaysia	0.4567	46
Bank Alkhair	Bahrain	0.4567	47
Hong Leong Islamic Bank	Malaysia	0.4566	48
Gatehouse Bank	UK	0.4566	49
Iraqi Islamic Bank for Investment & Development	Iraq	0.4563	50
Ajman Bank	UAE	0.4562	51
Islamic Bank of Asia	Singapore	0.4562	52
Al Salam Bank	Sudan	0.4561	53
Albaraka Turk Participation Bank	Turkey	0.4561	54
Bank Sarmayeh	Iraq	0.4557	55
HSBC Amanah Malaysia	Malaysia	0.4557	56
Jordan Dubai Islamic Bank	Jordan	0.4556	57
Asian Finance Bank	Malaysia	0.4556	58
Export Import Bank of Bangladesh	Bangladesh	0.4556	59
Al Rajhi Banking & Investment Corporation (Malaysia)	Malaysia	0.4554	60
Omdurman National Bank	Sudan	0.4550	61
Alliance Islamic Bank	Malaysia	0.4548	62
Bank Maybank Syariah Indonesia	Indonesia	0.4548	63
Bank of Khartoum	Sudan	0.4546	64
Bank Panin Syariah	Indonesia	0.4546	65
Bank Asya	Turkey	0.4545	66
Jaiz Bank	Nigeria	0.4545	67
National Bank of Sudan	Sudan	0.4544	68
Shahjalal Islami Bank	Bangladesh	0.4544	69
Al-Arafah Islami Bank	Bangladesh	0.4543	70
United Capital Bank	Sudan	0.4543	71
Arab Sudanese Bank	Sudan	0.4543	72



Bank Name	Country	Efficiency Score	Efficiency Rank
Albaraka Bank Tunisia	Tunisia	0.4542	73
Bank Jawa Barat Banten Syariah	Indonesia	0.4542	74
Standard Chartered Saadiq	Malaysia	0.4542	75
Affin Islamic Bank	Malaysia	0.4541	76
Arab Finance House	Lebanon	0.4540	77
Bahrain Islamic Bank	Bahrain	0.4540	78
Blue Nile Mashreq Bank	Sudan	0.4539	79
Islami Bank Bangladesh	Bangladesh	0.4538	80
Arab Islamic Bank	Palestine	0.4538	81
Burj Bank	Pakistan	0.4538	82
Social Islami Bank	Bangladesh	0.4538	83
Bank Muamalat Indonesia	Indonesia	0.4538	84
Alkhair International Islamic Bank	Malaysia	0.4538	85
Albaraka Bank	South Africa	0.4538	86
La Banque Islamique de Mauritanie	Mauritania	0.4538	87
Banque Al Wava Mauritanienne Islamique	Mauritania	0.4538	88
Palestine Islamic Bank	Palestine	0.4537	89
Tadhamon International Islamic Bank	Yemen	0.4537	90
Al-Bilad Islamic Bank for Investments & Financing	Iraq	0.4537	91
Islamic Bank of Yemen for Finance & Investment	Yemen	0.4537	92
Jordan Islamic Bank	Jordan	0.4536	93
Banque Islamique du Sénégal	Senegal	0.4536	94
Sudanese Egyptian Bank	Sudan	0.4536	95
Bank Victoria Syariah	Indonesia	0.4536	96
Bank BRI Syariah	Indonesia	0.4535	97
Syria International Islamic Bank	Syria	0.4535	98
Al-Amanah Islamic Investment Bank of the Philippines	Philippines	0.4535	99
Gulf African Bank	Kenya	0.4535	100
Albaraka Islamic Bank	Bahrain	0.4535	101
Shamil Bank of Yemen & Bahrain	Yemen	0.4535	102
Amana Bank	Tanzania	0.4535	103
Cham Islamic Bank	Syria	0.4534	104
Maldives Islamic Bank	Maldives	0.4534	105
Bank BNI Syariah	Indonesia	0.4534	106

# Table 2: Ranking of Islamic Banks in Terms of Overall Efficiency (Contd.)

#### Table 2: Ranking of Islamic Banks in Terms of Overall Efficiency (Contd.)

Bank Name	Country	Efficiency Score	Efficiency Rank
First Security Islami Bank	Bangladesh	0.4533	107
Albaraka Bank (Pakistan)	Pakistan	0.4533	108
First Community Bank	Kenya	0.4533	109
OCBC Al-Amin Bank	Malaysia	0.4532	110
Al Baraka Bank Sudan	Sudan	0.4532	111
Islamic International Arab Bank	Jordan	0.4531	112
Al Shamal Islamic Bank	Sudan	0.4531	113
Al Rayan Bank UK	UK	0.4531	114
Sudanese French Bank	Sudan	0.4531	115
Dubai Islamic Bank Pakistan	Pakistan	0.4531	116
Saba Islamic Bank	Yemen	0.4530	117
Bank Islami Pakistan	Pakistan	0.4529	118
Al Nile Bank for Commerce & Development	Sudan	0.4529	119
Investment Dar Co	Kuwait	0.4528	120
Faisal Islamic Bank (Sudan)	Sudan	0.4519	121
Al Baraka Bank Egypt	Egypt	0.4515	122
Bank Syariah Mandiri	Indonesia	0.4511	123
Bank Tejarat	Iran	0.4509	124
ICB Islamic Bank	Bangladesh	0.4507	125
Islamic Bank of Thailand	Thailand	0.4507	126
Abu Dhabi Islamic Bank	Egypt	0.4505	127
Meezan Bank	Pakistan	0.4499	128
Faisal Islamic Bank of Egypt	Egypt	0.4483	129
Saman Bank	Iran	0.4294	130
Bank Mellat	Iran	0.4126	131

Top 50 most efficient Islamic banks come from 12 countries of the world, including 6 GCC countries (24), Iran (6), Malaysia (10), UK (2), Turkey (2), Brunei Darussalam (1) and Iraq (1).The important exclusions are Pakistan, Indonesia, Bangladesh and the whole of the African continent. Table 3 summarises the incidence of efficiency in the GCC, Iran, Malaysia, Sudan and the rest of the world. It also breaks down the sample into important countries where Islamic banking exists.

Table 3:	Variables	Included	in the A	Analysis

Banks	GCC	Iran	Malaysia	Sudan	Others	Total
Top 20	13	5	2	0	0	20
Top 50	29	6	9	0	6	50
Top 100	31	6	16	8	39	100
All	33	9	17	13	60	132

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Table 4 divides Total Efficiency into Output Efficiency and Cost Efficiency, and provides a comparison of rankings of the Islamic banks accordingly. While Kuwait Finance House (Kuwait) scores highest on the overall efficiency, Bank Al Inma is the most cost effective Islamic bank in the world.

Bank Name	Country	Efficiency Score	Efficiency Rank (1)	Output Efficiency Rank (2)	Difference (1-2)	Output Efficiency Rank (3)	Difference (1-3)
Kuwait Finance House	Kuwait	0.9016	1	1	0	6	-5
Alinma Bank	Saudi Arabia	0.6653	2	2	0	1	1
Bank Melli Iran	Iran	0.6101	3	11	-8	2	1
Bank Saderat Iran	Iran	0.6001	4	3	1	4	0
Dubai Islamic Bank	UAE	0.5930	5	5	0	3	2
Qatar Islamic Bank	Qatar	0.5564	6	6	0	5	1
Bank Rakyat	Malaysia	0.5280	7	7	0	8	-1
Masraf Al Rayan	Qatar	0.5262	8	8	0	7	1
Abu Dhabi Islamic Bank.	UAE	0.5170	9	9	0	9	0
Bank Sepah	Iran	0.5064	10	10	0	10	0
Barwa Bank	Qatar	0.4833	11	13	-2	11	0
Al Hilal Bank	UAE	0.4748	12	15	-3	13	-1
Qatar International Islamic Bank	Qatar	0.4736	13	19	-6	12	1
Bank of Industry and Mine	Iran	0.4728	14	12	2	23	-9
Sharjah Islamic Bank	UAE	0.4715	15	18	-3	15	0
Kuwait Finance House	Bahrain	0.4689	16	21	-5	17	-1
Maybank Islamic	Malaysia	0.4687	17	16	1	25	-8
Parsian Bank	Iran	0.4684	18	37	-19	14	4
Bank Al Bilad	Saudi Arabia	0.4683	19	20	-1	20	-1
Bank Al Bilad	Saudi Arabia	0.4683	19	20	-1	20	-1
Albaraka Banking Group	Bahrain	0.4673	20	26	-6	16	4
Bank Pasargad	Iran	0.4670	21	14	7	35	-14
Boubyan Bank	Kuwait	0.4650	22	25	-3	24	-2
Al-Salam Bank	Bahrain	0.4650	23	42	-19	18	5
Turkiye Finans Katilim Bankasi	Turkey	0.4648	24	17	7	30	-6
Bank AlJazira	Saudi Arabia	0.4644	25	36	-11	22	3

Bank Name	Country	Efficiency Score	Efficiency Rank (1)	Output Efficiency Rank (2)	Difference (1-2)	Output Efficiency Rank (3)	Difference (1-3)
Kuwait International Bank	Kuwait	0.4642	26	22	4	26	0
Bank Islam Brunei Darussalam	Brunei Darussalam	0.4639	27	29	-2	25	2
Kuwait Finance House (Malaysia)	Malaysia	0.4612	28	28	0	29	-1
Noor Bank	UAE	0.4612	29	34	-5	28	1
Kuwait Turkish Participation Bank	Turkey	0.4607	30	24	6	38	-8
Ithmaar Bank	Bahrain	0.4605	31	49	-18	27	4
Emirates Islamic Bank	UAE	0.4603	32	27	5	36	-4
Bank Nizwa	Oman	0.4600	33	32	1	32	1
Ibdar Bank	Bahrain	0.4598	34	35	-1	33	1
RHB Islamic Bank	Malaysia	0.4593	35	43	8-	31	4
Bank of London and The Middle East	UK	0.4588	36	30	6	43	-7
CIMB Islamic Bank	Malaysia	0.4585	37	45	-8	37	0
ABC Islamic Bank	Bahrain	0.4585	38	33	5	44	-6
Alizz Islamic Bank	Oman	0.4582	39	38	1	41	-2
Warba Bank	Kuwait	0.4581	40	41	-1	42	-2
Public Islamic Bank	Malaysia	0.4579	41	77	-36	34	7
Khaleeji Commercial Bank	Bahrain	0.4572	42	52	-10	46	-4
National Islamic Bank	Iraq	0.4572	43	40	3	49	-6
Bank Islam Malaysia	Malaysia	0.4570	44	103	-59	39	5
International Development Bank for Investment & Islamic Finance	Iraq	0.4569	45	46	-1	48	-3
Bank Muamalat Malaysia	Malaysia	0.4567	46	111	-65	40	6
Bank Alkhair	Bahrain	0.4567	47	54	-7	47	0
Hong Leong Islamic Bank	Malaysia	0.4566	48	78	-30	45	3
Gatehouse Bank	UK	0.4566	49	47	2	50	-1



Bank Name	Country	Efficiency Score	Efficiency Rank (1)	Output Efficiency Rank (2)	Difference (1-2)	Output Efficiency Rank (3)	Difference (1-3)
Iraqi Islamic Bank for Investment & Development	Iraq	0.4563	5v0	48	2	51	-1
Ajman Bank	UAE	0.4562	51	44	7	55	-4
Islamic Bank of Asia	Singapore	0.4562	52	51	1	52	0
Al Salam Bank	Sudan	0.4561	53	53	0	53	0
Albaraka Turk Participation Bank	Turkey	0.4561	54	31	23	77	-23
Bank Sarmayeh	Iraq	0.4557	55	39	16	70	-15
HSBC Amanah Malaysia	Malaysia	0.4557	56	56	0	59	-3
Jordan Dubai Islamic Bank	Jordan	0.4556	57	59	-2	54	3
Asian Finance Bank	Malaysia	0.4556	58	57	1	57	1
Export Import Bank of Bangladesh	Bangladesh	0.4556	59	50	9	63	-4
Al Rajhi Banking & Investment Corporation (Malaysia)	Malaysia	0.4554	60	62	-2	58	2
Omdurman National Bank	Sudan	0.4550	61	55	6	67	-6
Alliance Islamic Bank	Malaysia	0.4548	62	75	-13	62	0
Bank Maybank Syariah Indonesia	Indonesia	0.4548	63	60	3	65	-2
Bank of Khartoum	Sudan	0.4546	64	64	0	72	8-
Bank Panin Syariah	Indonesia	0.4546	65	67	-2	71	-6
Bank Asya	Turkey	0.4545	66	23	43	129	-63
Jaiz Bank	Nigeria	0.4545	67	74	-7	68	-1
National Bank of Sudan	Sudan	0.4544	68	68	0	75	-7
Shahjalal Islami Bank	Bangladesh	0.4544	69	72	-3	73	-4
Al-Arafah Islami Bank	Bangladesh	0.4543	70	61	9	82	-12
United Capital Bank	Sudan	0.4543	71	66	5	79	-8
Arab Sudanese Bank	Sudan	0.4543	72	76	-4	74	-2

Bank Name	Country	Efficiency Score	Efficiency Rank (1)	Output Efficiency Rank (2)	Difference (1-2)	Output Efficiency Rank (3)	Difference (1-3)
Albaraka Bank Tunisia	Tunisia	0.4542	73	99	-26	69	4
Bank Jawa Barat Banten Syariah	Indonesia	0.4542	74	65	9	85	-11
Standard Chartered Saadiq	Malaysia	0.4542	75	71	4	80	-5
Affin Islamic Bank	Malaysia	0.4541	76	120	-44	61	15
Arab Finance House	Lebanon	0.4540	77	79	-2	81	-4
Bahrain Islamic Bank	Bahrain	0.4540	78	94	-16	76	2
Blue Nile Mashreq Bank	Sudan	0.4539	79	58	21	111	-32
Islami Bank Bangladesh	Bangladesh	0.4538	80	69	11	106	-26
Arab Islamic Bank	Palestine	0.4538	81	96	-15	83	-2
Burj Bank	Pakistan	0.4538	82	84	-2	89	-7
Social Islami Bank	Bangladesh	0.4538	83	73	10	96	-13
Bank Muamalat Indonesia Tbk	Indonesia	0.4538	84	109	-25	78	6
Alkhair International Islamic Bank	Malaysia	0.4538	85	89	-4	87	-2
Albaraka Bank	South Africa	0.4538	86	82	4	92	-6
La Banque Islamique de Mauritanie	Mauritania	0.4538	87	88	-1	90	-3
Banque Al Wava Mauritanienne Islamique	Mauritania	0.4538	88	87	1	91	-3
Palestine Islamic Bank	Palestine	0.4537	89	86	3	95	-6
Tadhamon International Islamic Bank	Yemen	0.4537	90	125	-35	56	34
Al-Bilad Islamic Bank for Investments & Financing	Iraq	0.4537	91	90	1	94	-3
Islamic Bank of Yemen for Finance & Investment	Yemen	0.4537	92	93	-1	93	-1
Jordan Islamic Bank	Jordan	0.4536	93	110	-17	84	9



Bank Name	Country	Efficiency Score	Efficiency Rank (1)	Output Efficiency Rank (2)	Difference (1-2)	Output Efficiency Rank (3)	Difference (1-3)
Banque Islamique du Sénégal	Senegal	0.4536	94	83	11	104	-10
Sudanese Egyptian Bank	Sudan	0.4536	95	91	4	101	-6
Bank Victoria Syariah	Indonesia	0.4536	96	92	4	102	-6
Bank BRI Syariah	Indonesia	0.4535	97	70	27	115	-18
Syria International Islamic Bank	Syria	0.4535	98	112	-14	86	12
Al-Amanah Islamic Investment Bank of the Philippines	Philippines	0.4535	99	95	4	103	-4
Gulf African Bank	Kenya	0.4535	100	85	15	110	-10
Albaraka Islamic Bank	Bahrain	0.4535	101	123	-22	64	37
Shamil Bank of Yemen & Bahrain	Yemen	0.4535	102	106	-4	99	3
Amana Bank	Amana Bank	0.4535	103	97	6	108	-5
Cham Islamic Bank	Syria	0.4534	104	102	2	105	-1
Maldives Islamic Bank	Maldives	0.4534	105	101	4	107	-2
Bank BNI Syariah	Indonesia	0.4534	106	63	43	121	-15
First Security Islami Bank	Bangladesh	0.4533	107	115	-8	98	9
Albaraka Bank (Pakistan)	Pakistan	0.4533	108	113	-5	100	8
First Community Bank	Kenya	0.4533	109	98	11	112	-3
OCBC Al-Amin Bank	Malaysia	0.4532	110	100	10	114	-4
Al Baraka Bank Sudan	Sudan	0.4532	111	104	7	113	-2
Islamic International Arab Bank	Jordan	0.4531	112	124	-12	66	46
Al Shamal Islamic Bank	Sudan	0.4531	113	107	6	116	-3
Al Rayan Bank UK	UK	0.4531	114	118	-4	88	26
Sudanese French Bank	Sudan	0.4531	115	107	8	118	-3
Dubai Islamic Bank Pakistan	Pakistan	0.4531	116	108	8	117	-1

Bank Name	Country	Efficiency Score	Efficiency Rank (1)	Output Efficiency Rank (2)	Difference (1-2)	Output Efficiency Rank (3)	Difference (1-3)
Saba Islamic Bank	Yemen	0.4530	117	117	0	97	20
Bank Islami Pakistan	Pakistan	0.4529	118	116	2	109	9
Al Nile Bank for Commerce & Development	Sudan	0.4529	119	114	5	119	0
Investment Dar Co	Kuwait	0.4528	120	80	40	123	-3
Faisal Islamic Bank (Sudan)	Sudan	0.4519	121	122	-1	122	-1
Al Baraka Bank Egypt	Egypt	0.4515	122	127	-5	120	2
Bank Syariah Mandiri	Indonesia	0.4511	123	81	42	128	-5
Bank Tejarat	Iran	0.4509	124	131	-7	21	103
ICB Islamic Bank	Bangladesh	0.4507	125	121	4	126	-1
Islamic Bank of Thailand	Thailand	0.4507	126	119	7	127	-1
Abu Dhabi Islamic Bank	Egypt	0.4505	127	126	1	125	2
Meezan Bank	Pakistan	0.4499	128	128	0	124	4
Faisal Islamic Bank of Egypt	Egypt	0.4483	129	130	-1	60	69
Saman Bank	Iran	0.4294	130	129	1	130	0
Kuwait Finance House	Kuwait	0.9016	1	1	0	6	-5
Alinma Bank	Saudi Arabia	0.6653	2	2	0	1	1
Bank Melli Iran	Iran	0.6101	3	11	-8	2	1
Bank Saderat Iran	Iran	0.6001	4	3	1	4	0
Dubai Islamic Bank	UAE	0.5930	5	5	0	3	2
Qatar Islamic Bank	Qatar	0.5564	6	6	0	5	1
Bank Rakyat	Malaysia	0.5280	7	7	0	8	-1
Masraf Al Rayan	Qatar	0.5262	8	8	0	7	1
Abu Dhabi Islamic Bank.	UAE	0.5170	9	9	0	9	0
Bank Sepah	Iran	0.5064	10	10	0	10	0
Barwa Bank	Qatar	0.4833	11	13	-2	11	0

Bank Name	Country	Efficiency Score	Efficiency Rank (1)	Output Efficiency Rank (2)	Difference (1-2)	Output Efficiency Rank (3)	Difference (1-3)
Masraf Al Rayan	Qatar	0.5262	8	8	0	7	1
Abu Dhabi Islamic Bank.	UAE	0.5170	9	9	0	9	0
Bank Sepah	Iran	0.5064	10	10	0	10	0
Barwa Bank	Qatar	0.4833	11	13	-2	11	0
Al Hilal Bank	UAE	0.4748	12	15	-3	13	-1
Qatar International Islamic Bank	Qatar	0.4736	13	19	-б	12	1
Bank of Industry and Mine	Iran	0.4728	14	12	2	23	-9
Sharjah Islamic Bank	UAE	0.4715	15	18	-3	15	0
Kuwait Finance House	Bahrain	0.4689	16	21	-2	17	-1
Maybank Islamic	Malaysia	0.4687	17	16	1	25	-8
Parsian Bank	Iran	0.4684	18	37	-19	14	4
Bank Al Bilad	Saudi Arabia	0.4683	19	20	-1	20	-1
Albaraka Banking Group	Bahrain	0.4673	20	26	-6	16	4
Bank Pasargad	Iran	0.4670	21	14	7	35	-14
Boubyan Bank	Kuwait	0.4650	22	25	-3	24	-2
Al-Salam Bank	Bahrain	0.4650	23	42	-19	18	5
Turkiye Finans Katilim Bankasi	Turkey	0.4648	24	17	7	30	-6
Bank AlJazira	Saudi Arabia	0.4644	25	36	-11	22	3
Kuwait International Bank	Kuwait	0.4642	26	22	4	26	0
Bank Islam Brunei Darussalam	Brunei Darussalam	0.4639	27	29	-2	25	2
Kuwait Finance House (Malaysia)	Malaysia	0.4612	28	28	0	29	-1

Bank Name	Country	Efficiency Score	Efficiency Rank (1)	Output Efficiency Rank (2)	Difference (1-2)	Output Efficiency Rank (3)	Difference (1-3)
Noor Bank	UAE	0.4612	29	34	-5	28	1
Kuwait Turkish Participation Bank	Turkey	0.4607	30	24	6	38	-8
Ithmaar Bank	Bahrain	0.4605	31	49	-18	27	4
Emirates Islamic Bank	UAE	0.4603	32	27	5	36	-4
Bank Nizwa	Oman	0.4600	33	32	1	32	1
Ibdar Bank	Bahrain	0.4598	34	35	-1	33	1
RHB Islamic Bank	Malaysia	0.4593	35	43	-8	31	4
Bank of London and The Middle East	UK	0.4588	36	30	6	43	-7
CIMB Islamic Bank	Malaysia	0.4585	37	45	-8	37	0
ABC Islamic Bank	Bahrain	0.4585	38	33	5	44	-6
Alizz Islamic Bank	Oman	0.4582	39	38	1	41	-2
Warba Bank	Kuwait	0.4581	40	41	-1	42	-2
Public Islamic Bank	Malaysia	0.4579	41	77	-36	34	7
Khaleeji Commercial Bank	Bahrain	0.4572	42	52	-10	46	-4
National Islamic Bank	Iraq	0.4572	43	40	3	49	-6
Bank Islam Malaysia	Malaysia	0.4570	44	103	-59	39	5
International Development Bank for Investment & Islamic Finance	Iraq	0.4569	45	46	-1	48	-3
Bank Muamalat Malaysia	Malaysia	0.4567	46	111	-65	40	6
Bank Alkhair	Bahrain	0.4567	47	54	-7	47	0
Hong Leong Islamic Bank	Malaysia	0.4566	48	78	-30	45	3
Gatehouse Bank	UK	0.4566	49	47	2	50	-1
Iraqi Islamic Bank for Investment & Development	Iraq	0.4563	50	48	2	51	-1
Ajman Bank	UAE	0.4562	51	44	7	55	-4
Islamic Bank of Asia	Singapore	0.4562	52	51	1	52	0
Al Salam Bank	Sudan	0.4561	53	53	0	53	0
Albaraka Turk Participation Bank	Turkey	0.4561	54	31	23	77	-23
Bank Sarmayeh	Iraq	0.4557	55	39	16	70	-15



Bank Name	Country	Efficiency Score	Efficiency Rank (1)	Output Efficiency Rank (2)	Difference (1-2)	Output Efficiency Rank (3)	Difference (1-3)
HSBC Amanah Malaysia	Malaysia	0.4557	56	56	0	59	-3
Jordan Dubai Islamic Bank	Jordan	0.4556	57	59	-2	54	3
Asian Finance Bank	Malaysia	0.4556	58	57	1	57	1
Export Import Bank of Bangladesh	Bangladesh	0.4556	59	50	9	63	-4
Al Rajhi Banking & Investment Corporation (Malaysia)	Malaysia	0.4554	60	62	-2	58	2
Omdurman National Bank	Sudan	0.4550	61	55	6	67	-6
Alliance Islamic Bank	Malaysia	0.4548	62	75	-13	62	0
Bank Maybank Syariah Indonesia	Indonesia	0.4548	63	60	3	65	-2
Bank of Khartoum	Sudan	0.4546	64	64	0	72	-8
Bank Panin Syariah	Indonesia	0.4546	65	67	-2	71	-6
Bank Asya	Turkey	0.4545	66	23	43	129	-63
Jaiz Bank	Nigeria	0.4545	67	74	-7	68	-1
National Bank of Sudan	Sudan	0.4544	68	68	0	75	-7
Shahjalal Islami Bank	Bangladesh	0.4544	69	72	-3	73	-4
Al-Arafah Islami Bank	Bangladesh	0.4543	70	61	9	82	-12
United Capital Bank	Sudan	0.4543	71	66	5	79	-8
Arab Sudanese Bank	Sudan	0.4543	72	76	-4	74	-2
Albaraka Bank Tunisia	Tunisia	0.4542	73	99	-26	69	4
Bank Jawa Barat Banten Syariah	Indonesia	0.4542	74	65	9	85	-11
Standard Chartered Saadiq	Malaysia	0.4542	75	71	4	80	-5
Affin Islamic Bank	Malaysia	0.4541	76	120	-44	61	15
Arab Finance House	Lebanon	0.4540	77	79	-2	81	-4
Bahrain Islamic Bank	Bahrain	0.4540	78	94	-16	76	2
Blue Nile Mashreq Bank	Sudan	0.4539	79	58	21	111	-32
Islami Bank Bangladesh	Bangladesh	0.4538	80	69	11	106	-26
Arab Islamic Bank	Palestine	0.4538	81	96	-15	83	-2
Burj Bank	Pakistan	0.4538	82	84	-2	89	-7
Alkhair International Islamic Bank	Malaysia	0.4538	85	89	-4	87	-2

Bank Name	Country	Efficiency Score	Efficiency Rank (1)	Output Efficiency Rank (2)	Difference (1-2)	Output Efficiency Rank (3)	Difference (1-3)
Social Islami Bank	Bangladesh	0.4538	83	73	10	96	-13
Bank Muamalat Indonesia Tbk	Indonesia	0.4538	84	109	-25	78	6
Alkhair International Islamic Bank	Malaysia	0.4538	85	89	-4	87	-2
Albaraka Bank	South Africa	0.4538	86	82	4	92	-6
La Banque Islamique de Mauritanie	Mauritania	0.4538	87	88	-1	90	-3
Banque Al Wava Mauritanienne Islamique	Mauritania	0.4538	88	87	1	91	-3
Palestine Islamic Bank	Palestine	0.4537	89	86	3	95	-6
Tadhamon International Islamic Bank	Yemen	0.4537	90	125	-35	56	34
Al-Bilad Islamic Bank for Investments & Financing	Iraq	0.4537	91	90	1	94	-3
Islamic Bank of Yemen for Finance & Investment	Yemen	0.4537	92	93	-1	93	-1
Jordan Islamic Bank	Jordan	0.4536	93	110	-17	84	9
Banque Islamique du Sénégal	Senegal	0.4536	94	83	11	104	-10
Sudanese Egyptian Bank	Sudan	0.4536	95	91	4	101	-6
Bank Victoria Syariah	Indonesia	0.4536	96	92	4	102	-6
Bank BRI Syariah	Indonesia	0.4535	97	70	27	115	-18
Syria International Islamic Bank	Syria	0.4535	98	112	-14	86	12
Al-Amanah Islamic Investment Bank of the Philippines	Philippines	0.4535	99	95	4	103	-4
Gulf African Bank	Kenya	0.4535	100	85	15	110	-10
Albaraka Islamic Bank	Bahrain	0.4535	101	123	-22	64	37
Shamil Bank of Yemen & Bahrain	Yemen	0.4535	102	106	-4	99	3
Amana Bank	Amana Bank	0.4535	103	97	6	108	-5
Cham Islamic Bank	Syria	0.4534	104	102	2	105	-1

Bank Name	Country	Efficiency Score	Efficiency Rank (1)	Output Efficiency Rank (2)	Difference (1-2)	Output Efficiency Rank (3)	Difference (1-3)
Maldives Islamic Bank	Maldives	0.4534	105	101	4	107	-2
Bank BNI Syariah	Indonesia	0.4534	106	63	43	121	-15
First Security Islami Bank	Bangladesh	0.4533	107	115	-8	98	9
Albaraka Bank (Pakistan)	Pakistan	0.4533	108	113	-5	100	8
First Community Bank	Kenya	0.4533	109	98	11	112	-3
OCBC Al-Amin Bank	Malaysia	0.4532	110	100	10	114	-4
Islamic International Arab Bank	Jordan	0.4531	112	124	-12	66	46
Al Shamal Islamic Bank	Sudan	0.4531	113	107	6	116	-3
Al Rayan Bank UK	UK	0.4531	114	118	-4	88	26
Sudanese French Bank	Sudan	0.4531	115	107	8	118	-3
Dubai Islamic Bank Pakistan	Pakistan	0.4531	116	108	8	117	-1
Saba Islamic Bank	Yemen	0.4530	117	117	0	97	20
Bank Islami Pakistan	Pakistan	0.4529	118	116	2	109	9
Al Nile Bank for Commerce & Development	Sudan	0.4529	120	115	5	120	0
Investment Dar Co	Kuwait	0.4528	121	81	40	124	-3
Faisal Islamic Bank (Sudan)	Sudan	0.4519	122	123	-1	123	-1
Al Baraka Bank Egypt	Egypt	0.4515	123	128	-5	121	2
Bank Syariah Mandiri	Indonesia	0.4511	124	82	42	129	-5
Bank Tejarat	Iran	0.4509	125	132	-7	21	104
ICB Islamic Bank	Bangladesh	0.4507	126	122	4	127	-1
Islamic Bank of Thailand	Thailand	0.4507	127	120	7	128	-1
Abu Dhabi Islamic Bank	Egypt	0.4505	128	127	1	126	2
Meezan Bank	Pakistan	0.4499	129	129	0	125	4
Faisal Islamic Bank of Egypt	Egypt	0.4483	130	131	-1	61	69
Saman Bank	Iran	0.4294	131	130	1	131	0





