Islamic Banking Comparative Analysis

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Introduction

Islamic banking is gaining in popularity, with Zaher and Hassan (2001) making a bold prediction that Islamic banks are set to control some 40-50 percent of Muslim savings by 2009/10. The worldwide Muslim population is at over one billion; therefore Islamic banks have many potential customers and opportunities in this niche area. Predictions put the value of Islamic banking at some USD 200 billion (Hassoune, 2002). However the size is difficult to measure given that many commercial banks may have 'Islamic window' operations, which are not necessarily reported separately in financial statements. The analysis of Islamic banking at a cross-country level is still at its infancy, although interest is expanding. This may have been due to limited data availability, with Islamic banks emerging in numbers from the 1980s.

A country's financial system including banks is important for financial development and prosperity. A financial intermediary (FI) can help the economy by collecting or pooling deposits from small deposit holders and making larger funds available to entrepreneurs who will efficiently use the funds (Merton, 1995). A critical function of FIs is to help individuals meet their inter-temporal and intra-temporal transfers of consumption. For instance, FIs minimize transaction costs for individuals including time, search costs, credit risk assessment and documentation (Benston and Smith, 1976). Islamic finance is actually more conducive to an economy's needs than a conventional bank, as the Islamic bank shares in not only the profits but also the losses of a project. Therefore it is in an Islamic bank's own interest to fund and encourage profitable projects. Islamic finance is actually more readily available for the small businessperson than conventional finance, however prior analysis on lending practices has found that Islamic banks prefer to lend funds in the short term (Aggarwal and Yousef, 2000).

Islamic banks need to compete for funds with conventional banks in most countries. The added service they offer however is a societal one, in that transactions can comply with Shariah principles. Shariah Boards may operate at the individual bank level or country level and may have in fact limited the globalization of Islamic products, with different Shariah rulings and interpretations at the individual bank or country level. Zaher and Hassan (2001) call for standardization of Islamic products

to encourage additional growth. Nevertheless the internationalization of financial markets cannot be restrained and Islamic banks are not isolated. Further globalization brings greater competition such as with a "General Agreement on Trade in Services" (GATS) signatory agreement whereby foreign banks can enter a country. As has already been evidenced, conventional banks are also able to compete by offering Islamic services via a 'window' dedicated to Islamic banking. To be able to compete, Islamic banks therefore must be competitive not only against Islamic banks in their own country, but also against home and foreign conventional banks. By studying the efficiency of Islamic banks across countries, we are able to benchmark best practices, not restricted to country borders.

The aim of this paper therefore is to measure the performance of Islamic banks for a number of countries over the period 1998–2001. The methodologies employed include Data Envelopment Analysis (DEA) cost efficiency and ratio analyses. The structure of the paper is as follows. Section 2 examines the literature on both Islamic banking and bank efficiency. The methodology employed is discussed in Section 3. Section 4 provides the descriptive and efficiency results, whilst Section 5 concludes.

Literature Review

1 Islamic Bank Literature

Islamic banking still remains mysterious to many people, including academics. Therefore countless articles and books on Islamic banking and finance describe the nomenclature and ideologies behind it. The cross-country Islamic bank literature has focused attention on describing the markets within individual countries, but to date there has been limited empirical research. In fact a number of studies have relied on results of research related to individual countries rather than collated cross-country information. A lack of data therefore has been a major challenge.

Nienhaus (1988) examined the individual financial statements of a number of Islamic banks operating in different countries. He stated that in many countries there was only one Islamic bank, making a comparison between banks in different countries was the best option at that stage. He compared the performance of Islamic banks with conventional banks and con-

cluded that Islamic banks were viable, but not as profitable. A seminal article provided by Zaher and Hassan (2001), found that Saudi Arabia did not distinguish between conventional and Islamic banking, whilst numerous Islamic banks in Pakistan had non-Islamic transactions despite attempts to comply fully with the financial system and Islamic principles. Malaysia did not opt for a full Islamic financial system due to different cultures within the country and Islamic banks have performed well there. Meanwhile, Bahrain imposed Basel capital regulations on Islamic banks. Zaher and Hassan also claimed that Islamic finance is not unlike Western 'equity' finance. A descriptive overview of regulatory features of 13 countries was provided.

Aggarwal and Yousef (2000) noted that governments of Muslim countries often use Western financial concepts, (e.g. the Saudi Arabian government borrowed on international capital markets) and therefore they questioned these governments' commitment towards fully developing Islamic financing options. They noted however, that Islamic banks often operated in developing countries with high levels of asymmetric information. Guru et al. (2003) examined services offered via the Internet. Some banks offered both Islamic and conventional Islamic online banking, but with plenty of scope for improvement overall. Individual bank data across several countries were analyzed by Arayssi (2003) and it was found that inefficient decisions were often made with regard to investment operations. Iqbal (2003) also examined individual Islamic banks in a number of countries in the mid-1990s and provided a history of the attempts to fully Islamicize the markets in Pakistan, Iran and Sudan (see also Zaher and Hassan, 2001). The trade sector was the most popular sector for Islamic funding. Further Islamic cross-country banking research could examine the statutory compliance of Islamic products with the Basel Accord and other regulatory matters (Karim, 2003).

2 Bank Efficiency Studies

Efficiency studies in banking, particularly at the cross-country level, have become quite popular in the literature. Banks operating in different countries have to comply with differing regulations and operating environments. Islamic banks are no exception. When Berger and Humphrey (1997) performed a comprehensive bank efficiency literature review, they found only a few cross-country studies which analyzed the banks of developed nations. Efficiency research at the macro level for banks has since expanded rapidly, however, most have examined the European region, with a few investigating the South East and Central Asian regions (Brown and Skully, 2003a). Nevertheless, the cross-country research on Islamic banks, using efficiency analysis techniques, has remained limited.

Brown and Skully (2003b) incorporated country-specific variables such as the Islamic bank concentration ratio, Muslim population, competition and regulatory variables within the DEA model to help allow for differing environments in each country. Results for countries with lower macro-economic variables generally did not improve with the inclusion of environment factors, and rankings of efficiency scores were in agreement with the cost-to-income efficiency ratio. Their analysis was only for one year. In this paper however, a time-series analysis is undertaken over a number of years.

Methodology

The main data source used in this paper is the IBCA's Bankscope database, which provides bank level data for thousands of banks worldwide. There are 19 countries analyzed descriptively from Asia, the Middle East and North Africa. The countries analyzed are: Algeria, Bangladesh, the Bahamas, Bahrain, Brunei, Egypt, the Gambia, Indonesia, Iran, Jordan, Kuwait, Mauritania, Malaysia, Qatar, Saudi Arabia, Sudan, Tunisia, United Arab Emirates (UAE) and Yemen. The sample period covers four years from 1998 to 2001. Using Data Envelopment Analysis (DEA), cost analysis is performed on a sample of 14 countries that have sufficient data for at least three years.

Initially some descriptive analysis is provided. The concentration of Islamic banks within each country for each year is provided so as to give an indication of the influence of Islamic banking. Ratios provide yearly analyses of the Islamic bank size, structure, profitability and liquidity for each country. Subsequently DEA is used to analyze the cost efficiency of banks. DEA is able to incorporate multiple variables into the one result and thereby provide a means to compare performance when multiple criteria are involved. The intermediation process involves several inputs and outputs, and therefore analysis of bank performance is suited to efficiency analysis.

Efficiency analysis should only compare similar decision-making units (DMUs). Therefore the analysis of Islamic banks conforms to this rule, even across countries. The sample is of a limited size with only 19 DMUs in 2001 and as many as 24 DMUs in 1998. Therefore non-parametric DEA is best suited to this data. DEA has the advantage of not having to apply a particular functional form as with the parametric models; however, it has the disadvantage of not measuring any error term (Farrell, 1957). The best performing banks within the sample are used as a benchmark. Cost efficiency measures the inputs into the production process to determine the minimum level of

inputs to produce a level of outputs. A bank will be more cost efficient if it can use less inputs to produce the same level of outputs as another bank. The maximum efficiency score obtainable is 100 per cent. The DMUs generally exhibit variable returns to scale (VRS) behavior in that the costs or inputs do not alter proportionately with outputs. Banker, Charnes and Cooper (1984) (BCC) developed the DEA model with VRS as follows:

$$\min_{\theta, \tau} \theta \text{ subject to } \begin{aligned} Y\tau &\geq Y_0 \\ X\tau &\leq \theta X_0 \\ e^T \tau &= 1 \\ \tau &\geq 0_n \end{aligned} \qquad \text{[1]}$$

where Y is the matrix of output vectors, X is the matrix of input vectors; (X_0, Y_0) is the unit being rated; e^T denotes a row-vector of 1's; τ is the vector of intensity variables; and θ is the efficiency score – a quantity between 0 and 1. Inputs and outputs into the production process can take various assumptions. In this case we assume the intermediation process whereby banks intermediate funds. Outputs used in the model include total deposits, loans and other earning assets. Inputs include personnel expenses and non-interest expenses.

Individual years are analyzed for both the descriptive and efficiency analyses given the small number of Islamic banks within each country. Sometimes only one bank's data was available for a particular country, which then may have increased to a second bank in later years. With larger sample sizes, panel data for efficiency analysis, and averages for the descriptive analysis would be more suitable. Further research could also analyze profit efficiency of Islamic banks.

Results

1 Descriptive Analysis

Islamic banks are said to be growing in size and hence significance. When analyzing banking markets across countries, it is important to understand the structure of the markets and environments in which they operate. Table 1 provides the concentration ratio of Islamic banks within each country. The concentration ratio is calculated by taking the total assets of Islamic banks for a country and dividing it by the sum of the total assets of both Islamic and commercial bank for that country. The data is limited to banks in the Bankscope database. Results indicate that Brunei and Iran have the most concentrated markets. A number of countries appear to have quite low levels of Islamic banks, including Algeria, Bahrain, Indonesia, Malaysia and Tunisia. It is then interesting to compare the concentration of Islamic banks with the actual Muslim population

for each country. This comparison is illustrated for the year 2000 in Figure 1. Brunei and Iran stand out as having representative levels of Islamic banks given the size of the Muslim populations. Many other Muslim countries, however, appear to have low levels of Islamic banks, thus future growth possibilities are enormous. The Bahamas has a very limited Muslim population, but still offers offshore Islamic banking services. Asset protection of money in banks is the biggest drawcard for the Bahamian banking system.

An indication of the level of bank finance used in each country can be obtained by examining the level of domestic credit to GDP. Results indicate that Malaysia, Egypt, Jordan and Kuwait have the highest levels of domestic credit provided by the banking system (see Figure 2). The lowest levels of bank credit are in the Gambia, Mauritania, Sudan and Yemen. Examples of other types of financial instruments available for a country to use are equities and bonds.

Table 1
Islamic Bank Concentration Ratio[a] (in Percents)

Country	1998	1999	2000	2001
Algeria	0.7	0.6	0.8	31.0[b]
Bangladesh	3.9	4.0	4.3	4.6
Bahamas	8.1	8.2	6.82	10.0[b]
Bahrain	0.9	1.7	1.2	2.1
Brunei	43.4	42.8	61.9	55.6
Egypt	1.6	1.92	1.6	1.6
Gambia	n.a.	5.3	6.2	n.a.
Indonesia	0.1	0.1	0.1	n.a.
Iran	41.7	42.5	46.1	n.a.
Jordan	1.4	1.5	1.4	1.6
Kuwait	13.9	14.8	16.0	16.7
Mauritania	17.0	24.7[b]	17.3	n.a.
Malaysia	0.9	1.1	1.3	1.4
Qatar	8.0	7.6	7.4	7.5
Saudi Arabia	4.1	4.2	4.0	4.9
Sudan	16.4	28.9[c]	10.9	12.5
Tunisia	1.2	1.0	1.0	n.a.
UAE	2.9	3.6	4.4	5.5
Yemen	9.4	12.1	14.7	19.2

[a] Against commercial and Islamic banking assets within each country
[b] Not all commercial banks reporting. For instance, in the Bahamas 28 banks reported total assets of USD13.48 billion in 2000 and 12 banks reported USD8.38 billion in 2001.
[c] Increase due to Islamic bank activity
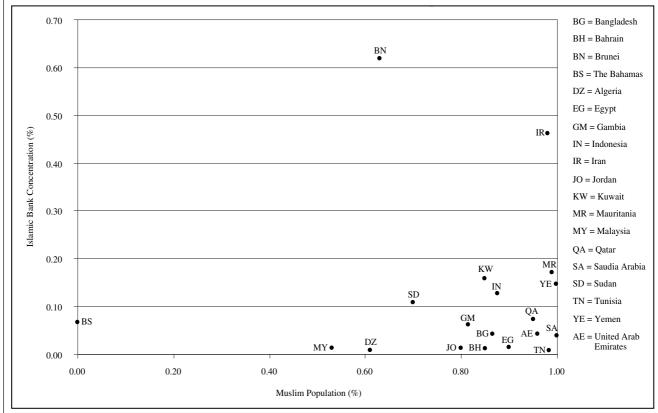
Source: Bankscope

Figure 1
Islamic Bank Concentration and Level of Muslim Population (2000)
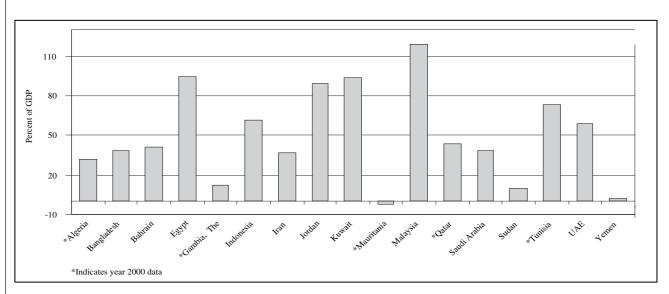
Note: Based on our sample only.

source:Bankscope

Figure 2
Domestic Credit Provided by the Banking Sector (2001)

*Indicates year 2000 data

Source : IMF IFS statistics, World Economic Forum, Arab World Competitivenss Report 2002-2003, Oxford University Press, New York.

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The panels in Table 2 provide a descriptive analysis of Islamic banks from 19 countries over the period 1998 to 2001. Based on asset size, the largest Islamic banking markets are found in Iran, Kuwait and Saudi Arabia. Limited data is available for 2001. Small markets are located in the Gambia, Indonesia, Mauritania, Yemen and Sudan. The total asset size of all countries grows from some USD 38.5 billion in 1998 to USD 65.9 billion by 2000 based on our sample. Results for 2001 are not provided given the limited sample size. Equity levels are best compared against the total assets providing an indication of the structure of the banks. Saudi Arabian banks have very high levels of equity to total assets, being about 95 per cent for all years. Iranian banks have the highest levels of total assets, but the lowest levels of equity to total assets, perhaps reflecting limited Islamic banking and government ownership and hence support of banks.

The net interest margin (NIM) results often vary for many countries from one year to the next. Bahrain and Mauritania manage to maintain relatively higher interest margins across all years. The largest market, Iran, consistently has rates around 2.5-3 per cent per year. The Indonesian market has very low net interest margins in 1998 and 1999 (perhaps due to the 1997/8 Asian financial crisis), but by the year 2000 was able to achieve a rate of 5.08 per cent. Perhaps the small margin has limited other Islamic entrants in that market in earlier years of the sample period, although government policy makers are now actively pursuing further expansion.

The profitability of the Islamic banks is measured by using return on average assets (ROAA) and return on average equity (ROAE). The results also vary between years for each country. Negative returns are reported for banks in Indonesia, United Arab Emirates (UAE), the Gambia, Sudan and the Bahamas in at least one year. Further investigation could reveal the underlying causes. Perhaps in some cases the banks are newly established and therefore take time to return a profit. Banks in the Gambia, for instance, only had a negative return in 1999. Banks in Bahrain, Kuwait, Saudi Arabia and Yemen consistently have the best ROAA figures.

Table 2a

Descriptive Statistics (1998)

	Bank Size		Structure		Profitability		Efficiency	Liquidity
	Total Assets	Equity	Equity / Total Assets	Net Interest Margin	Return on Average Equity (ROAE)	Return on Average Assets (ROAA)	Cost to Income Ratio	Liquid Assets / Cust & ST Funding
Country								
(Number of Banks)	**Millions US dollars**						Percentage (%)	
Algeria (1)	165	15	8.8	3.9	20.6	1.8	28.5	1.5
Bahamas (1)	1,021	347	34.0	3.3	3.7	1.2	113.5	216.0
Bangladesh (1)	483	27	5.6	-0.1	7.4	0.4	83.9	44.0
Bahrain (4)	257	82	41.4	8.4	7.3	3.5	50.4	18.4
Brunei (2)	546	125	24.6	5.1	5.8	1.1	19.9	54.6
Egypt (2)	1,264	62	5.7	1.7	13.7	0.8	40.7	9.3
Gambia (1)	4	1	12.5	10.1	23.0	3.1	70.7	36.6
Indonesia (1)	60	9	14.9	0.5	-83.6	-14.1	54.5	16.1
Iran (4)	20,713	441	2.1	2.8	14.2	0.3	74.5	53.5
Jordan (2)	595	64	18.3	2.5	3.8	0.4	67.7	41.0
Kuwait (1)	5,536	545	9.8	4.6	28.2	2.6	30.4	9.0
Mauritania (1)	47	14	29.1	6.0	3.8	1.1	82.4	8.5
Malaysia (3)	947	295	48.6	1.5	0.7	0.6	41.3	31.9
Qatar (2)	748	56	7.5	3.3	24.2	1.8	45.4	8.3
Saudi Arabia (1)	4,566	4,476	98.0	1.9	2.3	2.2	29.5	n.a.
Sudan (2)	92	5	6.7	5.5	7.1	0.4	81.2	33.2
Tunisia (1)	162	57	35.3	3.0	4.0	1.4	51.6	2.2
UAE (2)	1,264	287	44.2	3.4	-109.3	-4.4	49.4	8.4
Yemen (2)	47	8	16.5	3.5	14.4	2.5	51.0	52.6

Source: Brown and Skully, 2003b

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Table 2b

Descriptive Statistics (1999)

	Bank Size		Structure	Profitability			Efficiency	Liquidity
Total	Equity Assets	Equity /	Net Interest Total Assets	Return on Margin	Return on Average Equity (ROAE)	Cost to Average Assets (ROAA)	Liquid Income Ratio	Assets / Cust & ST Funding
Country (Number of Banks)	Millions US dollars						Percentage (%)	
Algeria (1)	170	19	11.3	3.8	18.3	1.8	30.9	14.9
Bahamas (1)	1,233	345	27.9	4.0	5.0	1.5	87.4	199.1
Bangladesh (1)	614	29	4.8	1.8	8.1	0.4	56.3	34.5
Bahrain (4)	511	115	32.5	8.9	6.9	3.0	61.8	19.3
Brunei (2)	532	130	30.8	6.4	7.5	1.4	20.9	42.2
Egypt (2)	1,355	63	5.6	1.1	6.8	0.3	51.9	12.6
Gambia (1)	6	0	3.3	3.3	-92.5	-6.5	81.6	26.0
Indonesia (1)	98	14	14.6	1.8	3.1	0.4	260.4	50.7
Iran (3)	28,289	523	1.9	2.3	19.3	0.4	68.9	37.0
Jordan (2)	686	66	13.1	2.4	3.5	0.5	61.6	35.8
Kuwait (1)	5,813	604	10.3	4.3	26.2	2.6	30.6	8.7
Mauritania (1)	47	13	26.8	5.4	0.8	0.2	91.2	14.4
Malaysia (3)	1,399	343	45.0	1.0	4.2	1.4	33.3	18.2
Qatar (2)	799	61	7.6	3.3	20.7	1.5	48.7	10.5
Saudi Arabia (1)	4,815	4,711	97.8	1.6	2.1	2.0	30.5	n.a.
Sudan (2)	193	5	4.6	4.8	9.8	0.4	80.8	34.2
Tunisia (1)	167	57	33.9	3.1	4.3	1.5	45.0	2.1
UAE (2)	1,634	295	26.6	3.2	5.7	1.0	57.0	13.7
Yemen (2)	68	9	13.3	3.5	18.6	2.7	53.2	48.8

Source: Bankscope database

Table 2c

Descriptive Statistics (2000)

	Bank Size		Structure	Profitability			Efficiency	Liquidity
	Total Assets	Equity	Equity / Total Assets	Net Interest Margin	Return on Average Equity (ROAE)	Return on Average Assets (ROAA)	Cost to Income Ratio	Liquid Assets / Cust & ST Funding
Country (Number of Banks)	Millions US dollars						Percentage (%)	
Algeria (1)	201	20	10.1	4.9	8.4	0.9	37.7	25.0
Bahamas (1)	1,132	333	29.4	1.4	-0.9	-0.2	100.8	200.1
Bangladesh (1)	729	44	6.0	2.7	11.7	0.6	53.4	26.3
Bahrain (6)	389	102	50.1	8.7	11.4	7.3	52.1	19.4
Brunei (2)	823	130	20.3	5.7	7.8	1.1	29.6	56.8
Egypt (2)	1,619	70	5.4	0.8	9.9	0.5	42.5	10.5
Gambia (1)	7	0	3.5	4.6	53.3	1.8	68.5	30.7
Indonesia (1)	117	11	9.6	5.0	6.8	0.7	95.8	23.0
Iran (2)	43,504	1,213	2.8	3.2	22.5	0.5	95.0	51.7
Jordan (2)	741	69	14.5	1.7	5.6	0.8	53.6	50.0
Kuwait (1)	6,630	680	10.2	4.0	24.9	2.5	31.4	8.5
Malaysia (4)	1,642	291	33.6	1.4	2.6	0.8	48.0	13.1
Mauritania (1)	52	9	18.0	7.6	8.8	1.9	73.1	14.8
Qatar (2)	845	65	7.8	3.4	17.7	1.3	44.4	9.0
Saudi Arabia (1)	4,948	4,690	94.7	1.7	2.1	2.0	30.8	n.a.
Sudan (2)	72	7	9.6	4.8	16.7	0.8	78.4	35.6
Tunisia (1)	178	57	31.8	3.0	4.9	1.6	41.4	1.9
U.A.E. (2)	2,194	309	18.1	3.1	8.1	1.4	54.5	7.8
Yemen (2)	99	12	12.9	2.9	14.2	1.8	46.9	43.2

Source: Bankscope database

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Table 2d

Descriptive Statistics (2001)

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	Bank Size		Structure		Profitability			Efficiency	Liquidity
	Total Assets	Equity	Equity / Total Assets	Net Interest Margin	Return on Average Equity (ROAE)		Return on Average Assets (ROAA)	Cost to Income Ratio	Liquid Assets / Cust & ST Funding
Country (Number of Banks)	Millions US dollars								Percentage (%)
Algeria (1)	246	24	9.5	2.8	7.4		0.7	49.0	29.4
Bahamas (1)	1,064	351	32.9	1.7	5.4		1.6	66.1	110.2
Bangladesh (2)	449	25	9.0	2.3	8.5		0.5	61.7	61.2
Bahrain (6)	421	107	46.4	7.0	13.0		8.0	44.7	153.0
Brunei (2)	853	127	17.3	5.3	7.8		0.9	25.8	58.5
Egypt (2)	1,365	60	5.3	0.9	9.0		0.4	47.8	9.3
Jordan (2)	837	70	11.8	1.5	4.2		0.7	60.9	50.3
Kuwait (1)	7,745	741	9.5	3.6	24.2		2.4	30.9	4.3
Malaysia (4)	1,942	330	33.4	1.6	2.6		0.5	33.5	9.1
Qatar (2)	977	71	7.2	4.3	22.4		1.6	41.3	11.6
Saudi Arabia (1)	4,858	4,728	97.3	1.3	1.9		1.8	32.9	n.a.
Sudan (2)	73	7	10.3	1.8	-13.9		-1.8	164.9	26.9
UAE (2)	2,920	329	14.1	2.8	10.1		1.3	50.4	8.3
Yemen (2)	136	13	11.5	2.3	15.1		1.8	48.7	46.9

Source: Bankscope database

The cost-to-income figures can be used as another indicator of bank cost efficiency. Results over 100 per cent indicate that the income does not adequately cover costs. Figures above 100 per cent are obtained for the Bahamas, Indonesia, and Sudan for at least one year, suggesting major cost problems. The lower the results, the better. Best results are obtained by Brunei and Kuwait with consistently low results around 30 per cent, which on a world banking stage is outstanding. The average cost-to-income ratio is 55 per cent, except for 1999 when it grew to 65.8 per cent predominantly due to Indonesia, which was affected by the Asian financial crisis. On a worldwide basis for commercial banks, the Middle East generally has the lowest cost-to-income ratio, reported at 44.23 per cent, with the worldwide average at around 60.8 percent (The Banker, 2002). Note that the same source questions the integrity of the low results for Kuwait.

Finally the liquidity of Islamic banks is examined by looking at the liquid assets to customer and short term funding. Most noticeable, the Bahamas, as an offshore banking centre, stands out with results of approximately 200 per cent, except for 2001 where it declines to 110.2 per cent. Banks with low levels of liquidity are from Tunisia and Kuwait.

2 Efficiency Results

The DEA cost model by Banker, Charnes and Cooper (BCC) is run with variable returns to scale (VRS). The number of banks in each sample ranges from 19 to 24 as reported in Table 3. Given the different samples used each year, the efficiency score for each bank cannot be compared over time. What can be analyzed however is the relative positioning or ranking of a bank within each sample, and over time.

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Table 3

Cost Efficiency Model (1998 – 2001)

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Country	1998	1999	2000	2001	Correlation with Cost/Income
Algeria	1	1	.5048	.6188	-0.750204
Bahrain	.4867	.5662	.7720	.65	0.2414854
Bangladesh	.7012	.7678	.6441	.8160	-0.04722
Brunei	1	1	1	.9294	-0.258732
Gambia, The	1	N/a	N/a	N/a	N/a
Indonesia	.3810	.3668	.5881	N/a	-0.384284
Iran	1	1	1	N/a	N/a
Jordan	1	.9850	.9155	.9628	0.9611520
Malaysia	.8023	1	1	.8974	-0.394529
Qatar	1	.8903	.7649	.7123	0.6553023
Sudan	.4137	.6879	.5504	.4414	-0.439973
Tunisia	.6638	.6852	.8405	N/a	-0.839345
U.A.E.	.8709	.9672	.9326	1	0.3301988
Yemen	.8281	1	1	1	0.2310855
Sample size	24	23	22	19	

The number of fully efficient countries (with a score of 1 or 100 per cent) reduces from six in 1998 to just two in 2001. The most efficient banks are consistently found in Iran, Brunei and Yemen. Malaysian banks were fully cost efficient in 1999 and 2000. The least cost efficient countries are Indonesia and Sudan. Results for individual years are then run with the corresponding cost-to-income figures. A negative correlation is expected as an increase in the cost-to-income ratio indicates higher cost, whereas a higher efficiency score indicates a more efficient bank or country. Efficiency results and the cost-to-income ratio are not exceedingly correlated.

Limitations of this study include the differing operating environments and financial reporting practices in each country. Another consideration is the degree to which each bank undertakes Islamic contracts and how they are recorded. Nevertheless with such a lack of cross-country empirical research on Islamic banks, it is worthwhile to undertake such research despite these limitations.

Conclusion

The aim of this paper is to provide an analysis of the performance of Islamic banks in different countries. Iran, Brunei and Yemen consistently have the most efficient markets and Indonesia and Sudan the least cost efficient. Therefore, it is interesting to compare the Islamic bank concentration ratios. Both Iran and Brunei have fairly concentrated Islamic banking markets above 40 per cent, whereas Yemen's Islamic banks have grown in importance from 9.4 per cent in 1998 to 19.2 per cent in 2001. The concentration of Islamic banks is generally increasing in most countries and many of these countries have large Muslim populations. Only Brunei and Iran have significant levels of Islamic banks within their economies however. Therefore the potential growth of Islamic banks is massive. Banks in the Bahamas act as offshore banking facilities and have a considerable size (about USD 1 billion), despite their minimal Muslim population.

Descriptive statistics are provided for four separate years. Countries with the largest markets based on asset size include Iran, Kuwait and Saudi Arabia. Very high equity levels are reported for Saudi Arabia, whilst the fully cost efficient market in Iran has very low equity levels. Profitability measures vary each year for most countries. The most liquid banking market is in the Bahamas, which is not surprising given its offshore banking status. Tunisia and Kuwait have the lowest liquidity. Finally, when the cost efficiency scores are compared with the standard ratio cost efficiency measurement, cost-to-income, the correlations are not significant.

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