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The Islamic finance promises: Evidence from Africa[☆]

Issa Faye, Thouraya Triki, Thierry Kangoye^{*}*Development Research Department, The African Development Bank, Tunisia*

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Abstract

The objective of this paper is to improve understanding of the market for Islamic finance in Africa. Specifically the paper provides a mapping of Africa-based Islamic finance providers, quantifies the amount of foreign Islamic funding received by Africa and compares performance of African Islamic and conventional banks. We find that there are significant cross country variations in the way Islamic banking has been developed in Africa and in the type of services offered. Our empirical findings also support the superior efficiency of Islamic banks and suggest that Islamic banking could be beneficial for Africa.

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JEL classification: F30; G20; O16

1. Introduction

Islamic financial institutions achieved annual growth rates in excess of 20% over the last decade, leading to an estimated market size of about USD 1.25 trillion in 2010 ([The CityUK, 2011](#)).¹ This growth was mainly fostered by the innovative aspect of Islamic finance, reforms in regulatory and taxation frameworks aimed at accommodating Islamic financial activities, and efforts

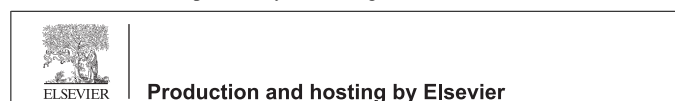
[☆] The views expressed in this paper are those of the authors' only They should not be interpreted as those of the African Development Bank, its management or those of its member countries The authors would like to thank Mouna Ben Dhaou for excellent research assistance and Soumendra Dash for useful comments.

^{*} Corresponding author. Tel.: +216 71101609.

E-mail address: t.kangoye@afdb.org (T. Kangoye).

¹ Throughout the paper Islamic finance refers to all financial assets and institutions that are compliant with *Shariah* principles, namely the prohibition of interest and speculation (*Riba* and *Gharar*). The paper does not discuss the distinguishing characteristics of *Shariah*-compliant institutions and instruments. For such a detailed description, please refer to [Iqbal et al. \(1998\)](#), [Aburime and Alo \(2009\)](#), [Mouawad \(2009\)](#), [Gait and Worthington \(2008\)](#) and [Islamic Finance and Global Financial Stability Report \(2010\)](#).

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made to beef-up Islamic financial infrastructure geared towards ensuring better risk management and corporate governance.

The origin of Islamic finance in Africa can be traced back to the 1960s with Egypt being the first African country offering Islamic banking under a low profile for political reasons ([Aburime and Alo, 2009](#); [Mouawad, 2009](#)). Several African countries followed suit which helped give raise to an African market for Islamic finance estimated at USD 37.5 billion as of 2008 ([The CityUK, 2011](#)). While this figure looks high at first sight, it remains negligible compared to the potential for Islamic finance in Africa estimated at USD 235 billion ([Moody's, 2008](#)). What's more, the market for Islamic finance in Africa is not only small in absolute terms but also in relative terms with African Islamic financial institutions holding less than 3% of global Islamic financial assets. The disparity between the current state of Islamic finance in Africa and its potential raises questions about constraints to the development of this type of finance. Lack of detailed information about Islamic finance providers in Africa and on the performance of African Islamic financial institutions further prevents a good understanding of this market. Indeed, research about the state and structure of the Islamic finance market in Africa is rather scant.

The objective of this paper is to fill this gap in the literature by answering 3 questions. First, what does the market for Islamic Finance in Africa look like? The paper provides what we believe is the first comprehensive mapping of Africa-based Islamic finance providers. Second, to what extent does Africa benefit from international Islamic funding? Third, how do African Islamic banks perform compared to their conventional

peers? The rationale for focusing on Islamic banks is twofold. First, banks represent the dominant players both in African financial systems and the global Islamic market.² Hence, it is important to identify differences in performance related to the “Islamic” characteristic of banks as this could have policy implications to further develop financial sectors in Africa. Second, the market for Islamic non-bank financial institutions in Africa remains embryonic which makes any robust statistical analysis impossible.

Our results show that the market for Islamic finance in Africa remains severely underdeveloped and counts only 116 providers from 21 countries. This number falls to 67 when Sudan, which carries a financial system that is *Shariah*-compliant, is excluded. Islamic banking is by far the most commonly offered Islamic finance service with 74 providers. This is consistent with patterns observed in the conventional African financial system and the global Islamic financial market. Yet, Islamic banking providers in Africa remain scarce and represent less than 10% of commercial banks operating in the 21 African countries offering Islamic financial services. Interestingly, Islamic banking has been developed using 2 different models in Africa. The first model consists in setting up fully fledged Islamic banks while the second model consists in setting up windows dedicated to Islamic finance within conventional banks. So far the first model prevails.

We find that North Africa counts the largest number of Islamic finance providers but that East Africa is home to the largest number of Islamic banking providers. We attribute this trend to the flexible approach that regulators have been adopting in East Africa and which is conducive to innovation. We also document strong variations in the type of Islamic financial services available in African countries. While South Africa has been successful in developing Islamic investment funds, West African countries have been more successful in developing Islamic microfinance.

Our research reveals also that Africa received at least USD 14 billion in Islamic project finance and USD 1.6 billion from *Sukuk* issuances on international markets over the period 2005–2012. While these amounts may look impressive at first sight, they remain negligible compared to the continent’s needs. For instance, the annual funding gap for infrastructure alone is estimated at USD 93 billion. International Islamic funding is not only limited but is also concentrated on few countries. Project finance remains concentrated in North Africa which captured 82% of resources provided while *Sukuk* issuances remains limited to 3 African countries.

Finally, our results suggest that Islamic banks in Africa are more stable as they report lower insolvency risk and higher returns on average assets. They also have lower non-performing loan (NPL) ratios but higher loan loss provisions. This result likely reflects the fact that Islamic banking transactions are backed by real assets giving very small room for speculation and lower NPLs. Our results suggest that Islamic banks adopt a

prudent approach to provisioning to circumvent taking avoidable risks. These provisions are expected to help them to tide over the difficult times without affecting their normal banking operations in case of any large scale defaults. Our results also suggest that Islamic banks are more efficient. Our findings are robust to controls for country fixed effects and the share of assets held by the government in the banking sector. They also have strong policy implications for financial sector development in Africa as they tend to indicate a superior performance of Islamic banks which gives support to the development of such institutions in Africa.

The remainder of the paper is organised as follows. Section 2 provides a mapping of the Islamic finance market in Africa while explaining the main identified trends. Section 3 describes Islamic funding flows that Africa was able to attract. In Section 4 we empirically investigate differences in performance between African Islamic and conventional banks while Section 5 concludes the paper.

2. Africa as a home for Islamic finance: a mapping exercise

Our data show that the number of African countries offering *Shariah*-compliant products remains limited to 21 out of 54 African countries (Table 1). We also find a wide diversity in the type of Islamic finance services available in Africa.³ We were able to identify 116 institutions offering 4 different Islamic financial services: 74 providers of Islamic banking, 33 institutions offering Islamic insurance “*Takaful*”, 4 offering *Shariah*-compliant investment services through investment funds and 5 offering Islamic microfinance. Table 1 shows that East Africa counts the largest number of Islamic finance providers (65) followed by North and West Africa which count respectively 25 and 14 providers.⁴ Interestingly, East Africa is downgraded to the second position with 16 providers once we exclude the Republic of Sudan (hereafter referred to as “Sudan”), which has a fully *Shariah*-compliant financial system.⁵

While North Africa counts the largest number of Islamic finance providers if one excludes Sudan, their number remains low compared to what one would expect from a region that is home to about 38% of Muslims living in Africa. For instance GCC which counts a large Muslim population account for over

³ Figures discussed in this section are computed by the authors using different data sources that are listed in Table 1. Note that institutions offering multiple services were counted only once under their main area of focus to avoid double counting. For instance, an Islamic bank that offers banking and microfinance services is counted only once as an Islamic bank. Hence, figures discussed in this section constitute lower bounds for Islamic finance providers in Africa.

⁴ The following country classification is used throughout the paper: North Africa: (Egypt, Mauritania, Morocco, Tunisia, Libya); Eastern Africa: (Sudan, Uganda, Djibouti, Somalia, Sudan); West Africa: (Mali, Gambia, Burkina Faso, Senegal, Sierra Leone, Guinea, Togo, Niger, Benin); Central Africa: (Chad, Cameroon, Gabon); Southern Africa: (Mozambique). These countries were identified as those offering Islamic finance in their respective regions.

⁵ Under the 2005 Comprehensive Peace Agreement, it was agreed that the Republic of South Sudan will have a conventional financial system while the Republic of Sudan will maintain a financial system that is *Shariah*-compliant.

² According to The CityUK (2011) 80% of global Islamic financial assets were controlled by Islamic banks in 2010.

Table 1
Overview of Islamic finance providers in Africa.

Country	Muslim population, million (2011 estimates, unless otherwise specified)	% Muslim (2011 estimates, unless otherwise specified)	Islamic banks		Banks with Islamic windows		Licensed commercial banks		Islamic insurance companies (Takaful operators or companies)		Islamic funds ^c		Islamic microfinance services providers		Islamic fin. services providers (total)
			Number	Year of reference	Number	Year of reference	Number	Year of reference	Number	Year of reference	Number	Year of reference	Number	Year of reference	
North Africa			9		5		127		11		0		0		25
Algeria	35.05	99	2	2012			20	2012	1	2010					3
Egypt	75.32	90	3	2012	1	2010	39	2011	4	2010					8
Libya	6.53 (2012)	97 (2012)	0	2012			16	2012	2	2008					2
Mauritania	3.36	100	2	2012			12	2011	2	2008					4
Morocco	31.99	99	0	2012	4	2010	19	2010	0	2010					4
Tunisia	10.52	98	2	2012			21	2012	2	2010					4
West Africa			6		1		126		4		0		3		14
Cameroon													1	2012	1
Gambia	1.66	90	1	2012			14	2012	1	2008					2
Ghana	4.01 (2012)	15.9 (2012)	0 ^a	2010	0	2012	27	2012	2	2012					2
Guinea	9.25	85	2	2012			12	2010							2
Liberia	0.47	12.2	0	2012			9	2012							0
Mali	13.08	90	0	2010			13	2012					1	2007	1
Nigeria	85.06 (2012)	50	1	2011	1	2011	21	2012					1	2012	3
Niger	13.66	92	1	2012			10	2012							1
Senegal	12.19	95	1	2012	0	2012	20	2012	1	2008					2
Eastern Africa			39		9		112		15		0		2		65
Djibouti	0.73	94	4	2012	0	2009	7	2012							4
Kenya	4.30 (2012)	10 (2012)	2	2012	5	2012	43	2012							7
Sudan (Rep. of)	30.86 (2010)	71.4 (2010)	32	2010			32	2010	15	2008			2 ^b	2013	49
Tanzania	15.26 (2012)	35 (2012)	1	2012	4	2012	30	2012							5
Southern Africa			2		3		93		3		4		0		12
Mauritius	0.22	16.6	1	2011	1	2010	20	2012							2
South Africa	0.73 (2012)	1.5 (2012)	1	2012	2	2012	73	2012	3	2010	4	2013			10
TOTAL			56		18		458		33		4		5		116

This table summarises our mapping of home-based Islamic finance providers in Africa. We used various data sources including: Ernst and Young (2011, 2012), Central Banks' websites contents and annual reports, Moody's (2008), Middle East Insurance Review (MIR) (2008), El-Quaqa et al. (2009), Nimrah et al. (2008), CIA World Factbook (World Muslim Population by Country), MixMarket (www.mixmarket.org), Islamic Finance Information Service (IFIS) and CGAP (2007).

^a Does not include Stanbic Bank Ghana which was reported to apply for an Islamic banking license in 2012 (http://www.theislamicglobe.com/index.php?option=com_content&view=article&id=1365:stanbic-on-stand-by-in-ghana&catid=8:article&Itemid=40).

^b Does not count Islamic commercial banks which were directed by the Central Bank of Sudan to allocate 12% of their total lending portfolio to microfinance funding.

^c Africa-based Shariah-compliant funds.

30% of the Islamic finance market. Differences in the size of Islamic finance markets between the two regions seem to arise from disparities in wealth levels. Indeed, average GDP per capita stood at USD 61,450 for GCC in 2012 against USD 4800 for North Africa. Nevertheless, wealth distribution alone cannot explain why Islamic finance is not more prominent in North Africa. Indeed, with the exception of Southern Africa, North Africa is the most economically prosperous region in the continent (GDP per capita in North Africa is estimated at USD 7208 in 2012 compared to USD 2466 for Sub-Saharan Africa). The region encompasses five middle income countries while Sub-Saharan Africa is mainly composed of low income countries.

Several arguments have been put forward to explain why Islamic finance is not more prominent in North Africa. First, most North African countries are new comers to the Islamic finance market. Until recently, the economic elites and authorities in most North African countries have been overlooking Islamic finance because they did not see a great potential in this type of finance. They were also trying to safeguard the politico-religious equilibrium and prevent entry points for Islamic fundamentalism and terrorism which Islamic finance was thought to facilitate. Only lately did local authorities become cognizant of the need and possibility to tap into resources from the GCC to fund the increasing demand for investments. Gait (2009) finds that recent interest in Islamic finance from Libyan banks and consumers for instance reflects mainly the increasing need for funding to support economic development rather than religious beliefs. Second, most of the Muslims in the region are from *Malikite* obedience. As such, they turn out to be moderate as compared to their peers from the Middle-East. Interestingly, a significant part of the population in North Africa does not consider interest payment as *Riba*. Consequently, retail banking and credit to consumers keep flourishing. Last but not least, inappropriate regulatory and tax frameworks in the region made Islamic finance more expensive than conventional products and therefore less appealing to consumers.

2.1. Islamic banking

Islamic banking is available in 15 African countries and dominates the African market for Islamic finance, capturing 64% of Islamic finance providers (Table 1).⁶ The predominance of Islamic banking mainly reflects the low level of financial sector development in most African countries whereby non-bank financial institutions are often inexistent or scarce. In other words, mainly banks in Africa seem to have the capacity to develop and market innovative services such as *Shariah*-compliant products and to understand and manage their inherent risks. Interestingly, we found 2 business models that are being used in Africa to offer Islamic banking. The first model consists in setting up fully-fledged Islamic banks while the second model consists in operating as a conventional bank whilst offering dedicated windows to Islamic banking. The first model prevails with 56 fully-fledged Islamic banks. Once Sudan is excluded, the 2

models count comparable number of institutions with a slight advantage for the Islamic bank model.

With the notable exception of Sudan, the number of Islamic banking providers remains negligible relative to conventional banks. Indeed, Islamic banking providers represent only 16% of total commercial banks operating in the 21 countries offering Islamic financial services and the share falls to about 10% once Sudan, which counts alone 32 fully fledged Islamic banks, is excluded. Sudan emerges as the most prominent market for Islamic banking in terms of number of Islamic banking providers. This is driven by the fact that the country requires full compliance with *Shariah* principles for the entire financial system.

Table 1 shows that East Africa counts the largest number of institutions offering Islamic banking. This trend holds even when Sudan is excluded. Excluding Sudan, Kenya has the largest number of Islamic banking providers. The country hosts 2 Islamic banks and 5 Islamic windows. Tanzania follows suit with 4 Islamic windows and 1 Islamic bank. Flexibility in regulators' attitude could explain the development of Islamic banking in those countries where Islam is not the dominant religion. North Africa ranks second in terms of Islamic banking providers with Egypt and Morocco leading the way with 4 Islamic banking providers each. Interestingly, Islamic banking in Morocco is offered through Islamic windows only. This is a reflection of Bank Al-Maghrib's (Morocco Central Bank) reluctance to issue licenses to Islamic banks, and to the apparent lack of buy-in from the Moroccan elite. Libya does not count any institution offering Islamic banking. This is definitely not a reflection of lack of interest from banks to offer such services. A survey of Libyan banks conducted in 2007–2008, revealed that two-third of surveyed Libyan banks are eager to offer Islamic finance products and services (Gait, 2009).

West Africa counts 7 institutions offering Islamic banking with Nigeria and Guinea leading the way with 2 institutions each. Islamic banking in West Africa is being offered mainly through Islamic banks. Only Nigeria counts an Islamic window. Most of these Islamic banks were established under the form of joint-ventures involving Islamic development financial institutions such as the Islamic Development Bank (IsDB), and Investors from the Gulf. For instance, 3 Islamic banks from the WAEMU zone (Senegal, Guinea, and Niger) belong to the same bank group which counts the IsDB as a majority shareholder. Financial authorities in the WAEMU region have shown commitment to further develop Islamic finance, and efforts are being made to amend the regulatory framework to accommodate Islamic banking. The IsDB is providing technical assistance to support these efforts.

South Africa and Mauritius are the only countries offering Islamic banking in Southern Africa but the number of Islamic banking providers is low compared to other regions. This contrasts with the high level of financial sector sophistication reported for these 2 countries. Our research also suggests that central Africa does not count Islamic banking providers. These trends could reflect the small Muslim population and the small size and political instability in some countries in those regions as well as lack of customer education and awareness. Nevertheless,

⁶ The share remains almost unchanged (63%) if Sudan is excluded.

the prospects of Islamic banking in Southern Africa are promising, particularly in South Africa where regulators have been implementing reforms to foster the development of Islamic finance. These reforms include the introduction of tax neutrality for *Mudharabah*, *Murabahah* and *Musharakah*. Mauritius has also good prospects in developing Islamic banking. According to Moody's (2008), the Central bank of Mauritius became a member of the International Financial Services Board, and partnerships have been sealed with potential partners in both Malaysia and Gulf countries. Mauritian authorities have also taken steps to develop Islamic banking activities, starting with the provision of licenses to operate Islamic windows. So far HSBC Bank Mauritius is the only conventional bank offering *Shariah*-compliant banking services in the country. It operates following HSBC Amanah, the global Islamic finance services division of the parent company HSBC Group.

2.2. Other *Shariah*-compliant financial services

Our research suggests that Islamic insurance, referred to as *Takaful*, is the second most developed segment of the Islamic finance market in Africa. We were able to identify 33 institutions providing Islamic insurance or *Takaful* in 10 African countries, out of which 15 are located in Sudan (Table 1). According to the World *Takaful* Report, Africa gross *Takaful* premiums amounted to USD 540 million in 2012. The Sudanese *Takaful* market is by far the most important in Africa and ranks as the third largest in the World after GCC and Malaysia. This owes to the full *Shariah* compliance of the financial system. Excluding Sudan, North Africa hosts the largest number of *Takaful* providers with 11 operators. Morocco does not offer *Takaful* services because of inefficiencies in the current regulatory framework. Indeed, the insurance code requires insurance companies to hold 70% of their investments in specific assets such as treasury bonds which are interest bearing. This prevents the development of *Takaful* companies which cannot invest in such assets. The rest of *Takaful* companies are located in 3 West African countries (The Gambia, Ghana and Senegal) and Southern Africa (South Africa).

The limited number of *Takaful* providers in Africa mainly reflects inefficiencies in existing regulatory and taxation frameworks. For instance, the lack of *Shariah*-compliant investment vehicles prevents *Takaful* companies from managing their regulated reserves according to *Shariah* principals. This is exacerbated by the fact that several African countries require minimum investment of regulated reserves in government bonds which are interest bearing and therefore *Shariah* non-compliant.

Africa counts at least 5 Islamic microfinance providers. Sudan counts 2 Islamic microfinance providers which offered in 2011 loans valued USD 64.5 million to 63,900 clients (mix market). Yet, this figure underestimates the amount of microfinance offered in the country since the Central Bank of Sudan requires banks to allocate 12% of their total lending to microfinance operations (representing an equivalent of about USD 650 million in 2012). With the notable exception of Sudan, Islamic microfinance is embryonic in Africa, with only 3 institutions offering Islamic microfinance for the entire continent.

These providers are located in 3 West African countries, namely Cameroon, Mali and Nigeria. Most recent available estimates show that Islamic microfinance benefited 2812 clients in 2007 in Mali for a total outstanding amount of USD 273,298 (Nimrah et al., 2008). The underdevelopment of Islamic microfinance in Africa reflects several factors. These include missing regulatory frameworks and institutional weaknesses in most MFIs operating in Africa which prevents innovation.

We use the EurekaHedge database to track Africa-based Islamic investment funds. We were able to identify 4 Islamic funds with a total size of USD 156 million. These funds are all based in South Africa and three of them are managed by the Oasis Crescent Management Company Ltd., a regulated South African Collective Investment Scheme administrator, which obtained an operating license in 1999. These funds' investment strategy is focused on equity securities. The dominance of South Africa in this segment is not surprising given the high level of financial sector development and the conducive environment that South Africa offers to investors. The 4 Africa-based Islamic funds have an average size of USD 39 million, which is small compared to the average size of a conventional African Fund. By way of illustration, the average size of an Africa-based private equity fund is estimated at USD 193 million by the Prequin Private Equity Fund Database. This supports Abd-Karim (2010) conclusion that Islamic funds tend to be smaller than conventional funds.

3. Africa as a recipient of foreign Islamic funding

The previous section focuses on Africa-based Islamic finance providers. Yet, our research reveals that Africa has been also a recipient of Islamic funding provided by investors located outside the continent. This section provides an attempt to quantify these flows.

3.1. Africa as a recipient of Islamic project finance

We use the project finance database published by the Islamic Finance Information Service (IFIS) to track African projects that benefited from Islamic funding. Our research unveils 104 projects in 21 African countries that were implemented over the period 2005–2012. These projects received USD 14 billion in *Shariah*-compliant financing, most of which comes from Islamic banks and Islamic Development Financial Institutions (IsDFI) (including the Islamic Development Bank, the International Islamic Trade Finance Corporation and the Arab Fund for Economic and Social Development). The regional distribution of these projects' number is as follow: North Africa (37%), West Africa (33%), East Africa (23%) and Central Africa (7%) (Fig. 1).⁷ The regional distribution of projects' value shows a stronger dominance of North Africa which captures alone 82% of funding provided. Egypt is the largest beneficiary of foreign

⁷ The list of projects provided by IFIS may not be exhaustive. It is used here to draw broad trends about regional, sector and financing type distribution of foreign Islamic finance that benefited Africa.

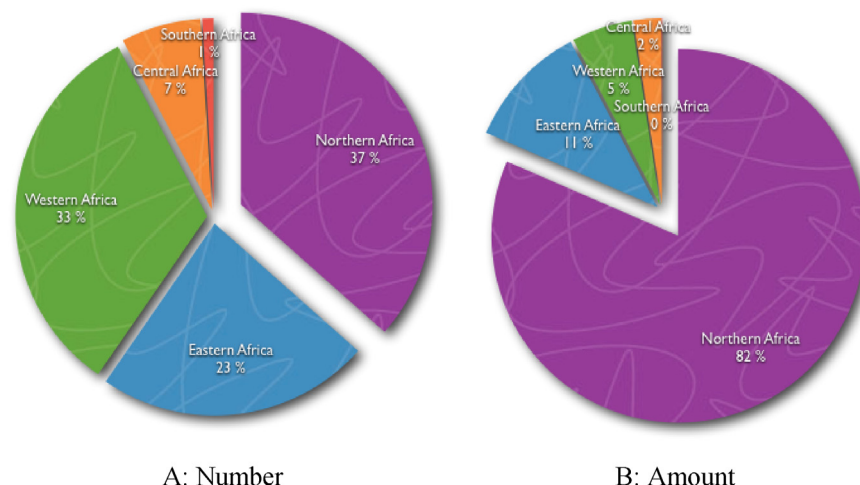


Fig. 1. Regional distribution of Islamic project finance transactions (number and value) (2005–2012).

Source: Authors' calculation using data from Islamic Finance Information Service (IFIS).

Islamic financing with 17 projects that received USD 3.53 billion. The remaining USD 2.8 billion that benefited sub-Saharan Africa were shared as follows: East Africa (USD 1.5 billion, 11%), West Africa (USD 755.9 million, 5%) and Central Africa (USD 339.7 million, 2%) (Fig. 1). The predominance of North Africa mainly reflects the conducive investment climate offered by the region. It could also be a reflection of similarities in culture, language and religion between North African countries and gulf countries from which most of the Islamic funding originates.

In terms of sector distribution, about a third (29%) of total resources provided (corresponding to about USD 4 billion) benefited 10 projects in the financial sector. These projects were located in North Africa (4), East Africa (2), West Africa (3) and Central Africa (1). Surprisingly, there were no investments in the financial sector in Southern Africa despite the fact the some countries in the region such as South Africa and Mauritius offer developed financial sectors. This suggests that best investment opportunities for Islamic finance providers were not necessarily in more developed financial systems. Infrastructure (e.g. transports, power, construction, utilities and health facilities) is the second largest sector benefiting from Islamic project finance targeting Africa with about 17% of total resources. Investments in the manufacturing sector rank third with a much lower share (3%) while agriculture, oil and mineral extraction, real estate and education are less served with less than 3% each (Fig. 2).

3.2. Africa as a Sukuk Issuer

The first African *Sukuk* issued on international markets date back to 2005 but the number of issuances has been very limited over time both in number and value (Fig. 3a and b). According to the *Sukuk* database published by the Islamic Finance Information Service (IFIS), 5 *Sukuk* issuances were made on international markets over the period 2005–2013 (Q2) by African entities: 3 corporate obligors and 1 sovereign obligor, namely the Sudan Financial Services Company, a company fully owned by the Central Bank of Sudan. These issuances raised about USD 1.6 billion, out of which USD 800 million was raised by the Sudan

Financial Services Company in 2010 through *Al-Ijara Sukuk* (Fig. 3b). Our data show that African obligors used various types of *Sukuk* to raise Islamic funding, including *Sukuk Al Musharakah*, *Sukuk Murabahah* and *Sukuk Al Ijara*. Yet, one cannot draw any conclusions about the use of instruments given the small number of issuances.

Our data show that the issuances of international African *Sukuk* are not only scarce but also restricted to 3 countries, namely Sudan, Mauritius and Namibia. Namibia was the first country to issue *Sukuk* in 2005. This was a USD 100 million 5-year *Sukuk* issued by a commercial real estate company. Sudan made 2 *Sukuk* issuances that allowed the country to raise about USD 930 million over the period 2007–2010, out of which USD 800 million was raised by sovereign entities and USD 130 million by corporate entities. Mauritius ranks second. While the country was a late comer to the *Sukuk* market, it successfully raised USD 560 million between 2012 and 2013.

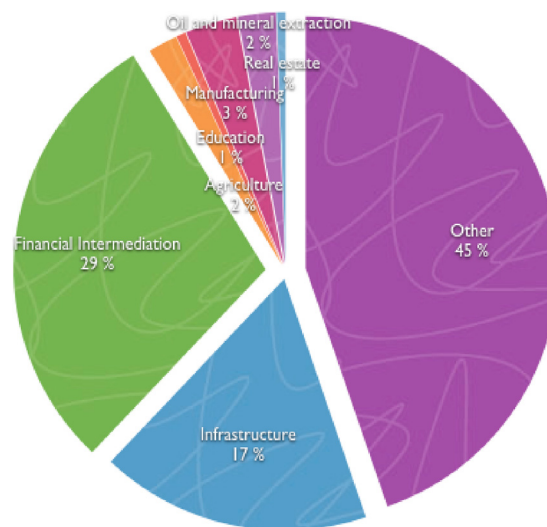


Fig. 2. Sector distribution of Islamic project finance transactions (2005–2012). Source: Authors' calculation using data from Islamic Finance Information Service (IFIS).

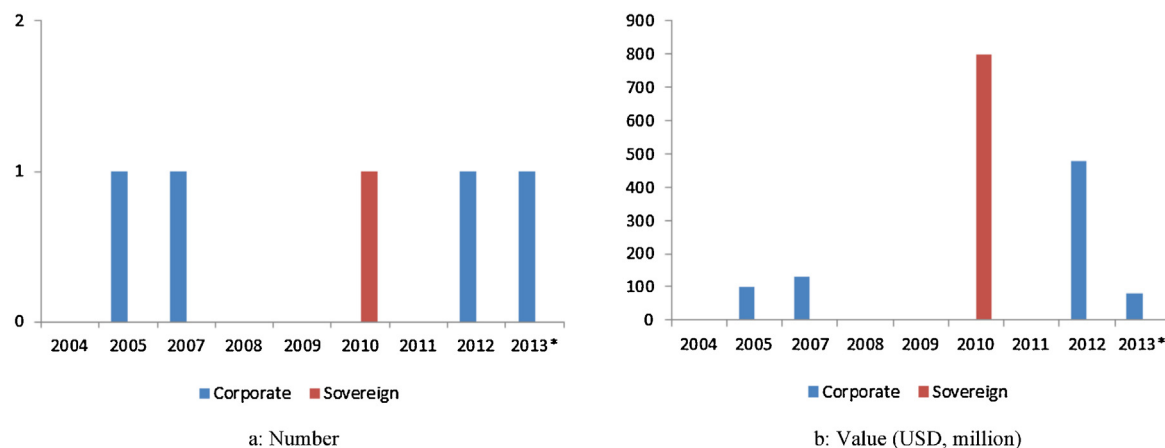


Fig. 3. Distribution of African *Sukuk* issuances on International markets (2005–2013Q2).

Source: Authors' calculation using data from Islamic Finance Information Service (IFIS) online *Sukuk* database (<http://www.islamicfinanceservice.com>).

4. Islamic banks in Africa: how do they perform?

This section empirically explores differences in performance between Islamic and conventional banks in Africa. We first review the relevant literature with the objective to draw hypothesis for our empirical work. Next we describe our data, variables and methodology. The last part of this section summarises our main findings.

4.1. Literature review

Growth in Islamic finance has prompted an interest on how Islamic financial institutions perform compared to their conventional counterparts in terms of profitability, efficiency, liquidity and stability. An emerging literature has been investigating these considerations, with a particular focus on Islamic banks which represent the dominant players in the Islamic finance market. Compliance with *Shariah* imposes costs and constraints on the activities of Islamic banks which can make the structure of their assets and liabilities and their risk profile different from those of conventional banks. This could lead to differences in performance.

On efficiency and liquidity, Mohamad et al. (2007) and more recently Johnes et al. (2012) find no significant differences between the overall efficiency of conventional and Islamic banks. Conversely, Al-Khasawneh et al. (2012) find that Islamic banks achieved higher average revenue efficiency scores over conventional banks in North Africa. Yet the growth rate of revenue efficiency scores for Islamic bank is lower than for conventional banks. Halkano (2012) on the other hand, finds that conventional banks in Kenya perform better than Islamic banks. Yet his results support previous conclusions on the greater liquidity of Islamic banks. Beck et al. (2013) reveal little significant differences between Islamic and conventional banks in business orientation, efficiency, asset quality, or stability. The authors show that higher cost-effectiveness of Islamic banks is not robust to the sampling methodology. Interestingly, they find that conventional banks operating in countries with a higher market share for Islamic banks are more cost-effective but less stable. They

also find that Islamic banks better weathered the 2008 global financial crisis thanks to stronger capitalization and liquidity reserves. IMF (2009) reaches a similar conclusion using a sample of banks from GCC. On average, capital adequacy ratios and liquidity levels of Islamic banks in the GCC are found to be higher than for conventional banks.

On stability, Čihák and Hesse (2010) investigate differences in stability between Islamic and conventional banks using z -scores as a measure of stability and a sample of banks from 20 countries in the Middle East, Asia and Africa. Their results suggest that while small Islamic banks tend to be more stable than small conventional banks, large conventional banks tend to be more stable than large Islamic banks. Conversely, using a sample of 12 Islamic banks and 71 conventional banks from Indonesia and z -scores to measure bank stability, Gamaginta and Rokhim (2010) find that Islamic banks are in general less stable compared to conventional banks and that small Islamic banks tend to perform similarly to conventional banks. Rajhi (2012) on the other hand finds that Islamic banks are on average more stable than conventional banks, except for small Islamic banks.

To the best of our knowledge, our study provides the first empirical analysis of differences in performance between conventional and Islamic banks operating in Africa. Unlike previous papers which use either country case studies or a sample of African banks as part of a larger sample covering multiple regions (see Appendix 1), we use a sample exclusively constituted of African banks from 45 countries. Based on the literature review, we are not able to draw any expectations related to differences in the performance of Islamic banks relative to conventional banks.

4.2. Data and variables

We collect bank-level balance sheet and income statement data from BankScope by bureau van dijk. Bankscope covers a large share of the banking sector in most African countries. Hence, it allows us to construct a sample that provides a good coverage of the banking sector in the countries under study. Specifically we collect from Bankscope data to measure banks'

business orientation, efficiency, asset quality and stability as well as variables to control for bank characteristics. These variables are described later in the text. We only focus on commercial banks to avoid variations in results caused by differences in business models, legal structures and mandates.

We relate bank-level data to country-level variables controlling for the level of economic and financial sector development in the country as well as institutional quality. These variables are collected from the World Development Indicators database, the financial structure and regulation database published by the Making Finance Work for Africa partnership/African Development Bank, and the Heritage foundation. Our sample comprises 290 African banks: 279 conventional and 11 Islamic banks operating in 45 countries over the period 2005–2010.⁸

As in Beck et al. (2013), we consider 4 broad dimensions of bank performance: business orientation, efficiency, asset quality and stability. We rely on 2 variables to measure *efficiency*: overheads and the cost to income ratio. Overheads represent the value of overhead costs divided by total costs. Higher values of these ratios describe lower efficiency levels. *Business orientation* is measured using the loan to deposits ratio as well as an index suggested by Demirgüç-Kunt and Huizinga (2010), namely the ratio of fee-based income to total operating income. Third, we use 2 measures for *asset quality*: loan loss provisions and the non-performing loans ratio (both relative to gross loans). Finally we use 3 variables to measure bank *stability*: the return on average assets, the equity to assets ratio and the *z*-score. The *z*-score is measured using the following formula:

$$Z = \frac{ROA + CAR}{SD(ROA)}$$

where *ROA* is the return on assets, *CAR* is the capital-asset ratio and *SD(ROA)* is the standard deviation of the return on assets and proxies the return's volatility. The *z*-score is inversely related to insolvency probability. A higher *z*-score therefore corresponds to a lower risk of insolvency (Beck et al., 2013; Čihák and Hesse, 2010).

Our model controls for time-variant bank and country characteristics that may affect bank business orientation, efficiency, asset quality and stability. Specifically we control for the following bank characteristics: *Size* (measured by the natural logarithm of total assets). Larger banks are likely to benefit from economies of scale (Beck et al., 2006; Demirgüç-Kunt et al., 2004). Yet, they may also be less performing given complexity of their operations leading to inefficiencies. As in Beck et al. (2013), we also control for the *opportunity costs of having non-earning assets* and *non-lending business* by including respectively the ratio of fixed assets to total assets and the share of non-interest earning assets.

⁸ Given data availability, our sample covers the following African countries: Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cameroon, Cape Verde, Central African Republic, Chad, Congo, Cote d'Ivoire, Equatorial Guinea, Eritrea, Ethiopia, Gabon, Gambia, Ghana, Guinea, Guinea Bissau, Kenya, Lesotho, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, South Africa, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia.

Demirgüç-Kunt et al. (2004) and Demirgüç-Kunt and Huizinga (2010) show that both aspects affect bank efficiency and stability.

We also control for the following country characteristics: *level of economic development* measured by the natural logarithm of the GDP per capita and the rate of GDP growth; *level of financial sector development* measured by the ratio of private credit to GDP; and *structure of the banking sector* measured by level of concentration in the banking sector. We also control for the *quality of the institutional environment* by including an index measuring financial freedom in the country because restrictions imposed on banks are likely to influence their performance (Beck et al., 2013). Triki et al. (2013) also show that the regulatory framework affects bank performance in Africa. Hence, we use 3 variables to control for the *regulatory framework*: restrictions on activities, overall capital stringency and supervision quality. Appendix 2 provides a detailed description of our variables and their data sources while Tables 3 and 4 provide respectively descriptive statistics and a correlation matrix.

4.3. Methodology

In order to empirically explore differences in the performance of Islamic and conventional African banks, we use the following regression model:

$$perf_{i,j,t} = \alpha + \beta Islamic_i + \gamma Bank\ controls_{i,j,t} + \delta Controls_{j,t} + \varphi year_t + \varepsilon_{i,t}$$

where *Perf* is one of our measures of business orientation, efficiency, asset quality and stability of bank *i* in country *j* in year *t* as discussed in the previous section. *Islamic* is a dummy variable that takes the value of 1 for Islamic banks, and 0 otherwise. Bank controls and country controls are respectively vectors including variables controlling for bank and country characteristics. $\varepsilon_{i,t}$ is the error term and *year_t* are fixed-year effects. All specifications are estimated using Generalised Least Squares. We allow clustering of standard errors by bank given that some countries report a significantly larger number of banks than others which could bias standard errors downward (Beck et al., 2013).

4.4. Empirical findings

The main results are summarised in Table 2.⁹ Columns (1) and (2) report our findings for business orientation while specifications (3) and (4) include results for efficiency measures. Columns (5) and (6) display results for asset quality while columns (7)–(9) report results for our 3 measures of bank stability. Overall, we find that Islamic banks have lower cost to income and higher *z*-score, return on average assets and equity assets ratio. These results suggest that African Islamic banks are more efficient and stable than conventional banks. Our findings support Al-Khasawneh et al. (2012) conclusion on the superior performance

⁹ Given the small size of our Islamic banks sample, we were not able to test differences in performance between small and large Islamic banks as done in several papers cited in the literature review.

Table 2
Performance of Islamic banking in Africa: results of the main model.

	Business Orientation		Efficiency		Asset Quality		Stability		
	Fee income	Loans deposit ratio	Cost income ratio	Overheads	Loan loss provisions	NPL	Z-score	ROAA	Equity assets ratio
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Islamic	0.0316 (0.120)	−0.793 (1.138)	−0.153** (0.0709)	−0.0341 (0.0362)	0.548* (0.329)	−0.101** (0.0412)	52.11*** (14.77)	0.00960*** (0.00310)	0.0636** (0.0253)
Assets (log)	−0.00291 (0.00392)	−0.0955 (0.0602)	−0.0452*** (0.0136)	−0.00341 (0.00409)	−0.000453 (0.000695)	−0.000873 (0.00304)	−2.499** (1.073)	0.00145 (0.000892)	−0.0127*** (0.00351)
Other earnings	−0.00151* (0.000781)	0.00592 (0.00801)	0.000185 (0.000783)	−0.000786*** (0.000295)	0.000602 (0.000853)	−0.000191 (0.000127)	−0.00902 (0.0388)	5.75e- (9.34e- 05)	0.000223 (0.000513)
Fixed assets	0.671 (0.473)	1.104 (1.503)	8.172*** (2.394)	1.114*** (0.274)	0.0391 (0.108)	1.269** (0.513)	−4.083 (16.23)	−0.463*** (0.0990)	0.126 (0.340)
GDP per capita (log)	0.0132 (0.00819)	0.340* (0.194)	0.0135 (0.0324)	−0.0350*** (0.0118)	0.000565 (0.00250)	−0.00376 (0.00763)	1.103 (2.847)	−0.00304 (0.00188)	0.0193** (0.00931)
GDP growth	−0.353** (0.159)	1.303 (2.398)	−0.360 (0.458)	0.456*** (0.123)	0.0353 (0.0421)	−0.0437 (0.160)	8.804 (7.634)	−0.00846 (0.0550)	−0.187 (0.117)
Concentration ratio	−0.0588 (0.0622)	−1.170 (1.484)	−0.0860 (0.112)	0.102* (0.0529)	−0.0255 (0.0175)	−0.149** (0.0619)	3.769 (5.741)	0.0227* (0.0125)	0.0645* (0.0383)
Financial freedom index	−0.000740 (0.000536)	−0.0103 (0.00931)	0.00172 (0.00212)	0.000282 (0.000449)	9.97e- 05 (0.000107)	−0.00118*** (0.000428)	0.0337 (0.0324)	−8.69e- 05 (0.000110)	−0.000385 (0.000297)
Private credit GDP ratio	0.00437 (0.0349)	0.813 (0.511)	0.178*** (0.0593)	−0.143*** (0.0363)	0.00673 (0.00702)	0.0511** (0.0260)	11.24* (6.208)	−0.0146** (0.00646)	−0.0508* (0.0261)
Restrictions on activity	0.000934 (0.00976)	0.324 (0.259)	−0.000474 (0.0166)	0.00297 (0.00727)	0.00515 (0.00334)	0.0115 (0.00745)	3.441* (2.001)	−0.00216 (0.00152)	0.00399 (0.00409)
Supervision quality	−0.00326 (0.00667)	−0.00875 (0.117)	0.0195 (0.0207)	0.0119 (0.00869)	−0.00276* (0.00142)	−0.00379 (0.00523)	−0.167 (1.409)	0.000631 (0.00140)	0.0117** (0.00516)
Overall capital stringency	0.00241 (0.00459)	−0.154** (0.0775)	−0.0174 (0.0165)	−0.00865* (0.00452)	−0.00238 (0.00164)	−0.00405 (0.00415)	0.207 (1.089)	0.00310*** (0.000949)	0.00450 (0.00353)
Constant	0.226*** (0.0846)	−0.376 (1.143)	0.529 (0.341)	0.799*** (0.124)	0.0251 (0.0261)	0.216*** (0.0835)	7.847 (20.65)	0.0282 (0.0215)	−0.00725 (0.0966)
<i>Year dummies</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Obs	1122	12	1176	1186	1125	714	1208	1206	1208
Banks	233	234	234	235	230	174	235	235	235

This table compares performance of African Islamic and conventional banks. Our sample is a 6 period panel of yearly observations over the period 2005–2010. It covers 290 commercial banks from 45 African countries. Estimations (1) to (9) are done using GLS clustered by banks. *P*-values are computed using heteroskedasticity-robust standard errors and are reported between the parentheses. *, ** and *** represent statistical significance at respectively 10%, 5% and 1% level. For a detailed description of variables and data sources, please refer to [Appendix 2](#).

Table 3
Islamic banking in Africa: descriptive statistics.

Variables	Mean	Standard dev.	Median	Min	Max	N
Dependent variables						
Fee income	0.260	0.353	0.224	−0.072	9.718	1366
Loans deposit ratio	0.838	2.807	0.614	0.000	56.822	1536
Cost income ratio	0.652	0.457	0.585	0.051	6.725	1494
Overheads	0.638	0.187	0.651	0.044	1.139	1485
Loan Loss provisions	0.022	0.071	0.010	−0.402	1.000	1396
NPL	0.087	0.116	0.049	0.000	0.921	816
Z-score	23.497	34.284	15.907	−10.976	500.124	1556
ROAA	0.015	0.046	0.018	−0.975	0.200	1554
Equity assets ratio	0.130	0.118	0.107	−0.971	0.992	1556
Explanatory variables						
Islamic	0.036	0.186	0.000	0.000	1.000	1556
Assets (log)	5.663	2.199	5.717	−4.619	11.651	1556
Other earnings	0.497	2.876	0.328	0.000	104.788	1524
Fixed assets	0.033	0.029	0.024	0.000	0.193	1543
GDP per capita (log)	7.144	1.056	6.961	5.037	9.397	1556
GDP Growth	0.053	0.036	0.055	−0.098	0.378	1556
Concentration ratio	0.631	0.183	0.621	0.305	1.000	1494
Financial freedom Index	47.682	13.190	50.000	20.000	70.000	1411
Private credit GDP ratio	0.290	0.320	0.165	0.009	1.501	1509
Restrictions on activity	4.216	1.368	3.889	1.944	8.333	1556
Supervision quality	4.156	1.340	3.750	1.875	7.500	1348
Overall capital stringency	6.159	1.925	7.000	2.000	9.000	1556
Government ownership	0.171	0.239	0.057	0.000	0.922	1290

This Table summarises descriptive statistics for the variables used in the regression analysis. For a detailed description of variables and data sources, please refer to [Appendix 2](#).

of Islamic banks and [Rajhi \(2012\)](#) findings on the superior stability of Islamic banks. In line with [Beck et al. \(2013\)](#), columns (1) and (2) show that there are no statistically significant differences in business orientations between Islamic and conventional banks in Africa. Results reported in [Table 2](#) suggest mixed conclusions about differences in asset quality between Islamic and conventional banks. Indeed, we find that Islamic banks have lower non-performing loans but higher loan loss provisions. The lower level of NPLs likely reflects the fact that Islamic banking is asset backed and does not allow speculation. This leaves less room for potential losses and is consistent with the superior resilience that Islamic banks exhibited during the 2008 financial crisis. The positive coefficient we report for loan loss provisions suggest that Islamic banks in Africa have a more conservative approach to provisioning.

Results for control variables show that higher levels of fixed assets are associated with lower levels of efficiency and lower asset quality and stability as measured respectively by non-performing loans ratio and return on average assets. We also find that regulation affects African bank's performance. Indeed, our results suggest that higher restrictions on activities are associated with higher levels of bank solvency. On the other hand, more stringent capital requirements are associated with lower loans to deposits ratios, lower overhead costs and higher return on average assets. Banks in countries with better supervision quality show higher levels of capitalization and report lower loan loss provisions. Our results also suggest that banks operating in countries that are more economically developed (as measured by GDP per capita) have higher levels of loan to

deposit and equity assets ratios and lower overheads. The positive relationship between GDP per capita and loan to deposit ratio could reflect the fact that economic development spurs financial intermediation but could also reflect a reverse causality whereby countries where banks intermediate a higher level of resources are likely to develop at a stronger pace. Regarding bank efficiency, larger banks are found to be more efficient as they exhibit lower cost to income ratios. This is consistent with the economies of scale argument. Banks operating in faster growing economies seem to be more efficient (using overhead as a measure of efficiency). The banking sector concentration enters significantly in the regressions of efficiency, asset quality and stability, with a positive impact of 0.1 on overheads, a negative impact of -0.15 on non-performing loans and a positive impact of 0.02 and 0.06 on ROAA and equity to assets ratio respectively. These results suggest that banks operating in concentrated systems are less likely to report non-performing loans, have stronger capitalization and lower insolvency risk, but are less efficient. Interestingly, the impact of private credit to GDP ratio on efficiency is positive when efficiency is measured by overheads and negative when it is measured by cost to income ratio. This suggests that, when private credit to GDP increases, banks' total costs increase, mainly through an increase in non-overhead costs.

4.5. Robustness check

In order to test the robustness of our findings, we first rerun all specifications reported in [Table 2](#) while adding a control for

Table 4
Islamic banking in Africa: pairwise correlation matrix.

	Islamic	Assets (log)	Other earnings	Fixed assets	GDP per capita (log)	GDP growth	Concentration ratio	Financial freedom index	Private credit GDP ratio	Restrictions on activity	Supervision quality	Overall capital stringency	Government ownership
Islamic	1.0000												
Assets (log)	0.0130 (0.6094)	1.0000											
Other earnings	−0.0060 (0.8165)	−0.0323 (0.2070)	1.0000										
Fixed assets	0.1755* (0.0000)	−0.1435* (0.0000)	−0.0473 (0.0662)	1.0000									
GDP per capita (log)	0.0051 (0.8415)	0.2515* (0.0000)	0.0282 (0.2718)	−0.3152* (0.0000)	1.0000								
GDP growth	0.0632* (0.0126)	−0.0947* (0.0002)	−0.0071 (0.7804)	0.1147* (0.0000)	−0.2163* (0.0000)	1.0000							
Concentration ratio	−0.0575 (0.0263)	*0.0778 (0.0026)	*0.0225 (0.3882)	0.0543* (0.0364)	0.0689* (0.0077)	−0.1064* (0.0000)	1.0000						
Financial freedom index	−0.0455 (0.0873)	−0.2024 (0.0000)	*0.0515 (0.0554)	−0.1103* (0.0000)	−0.0074 (0.7810)	0.0103 (0.6988)	−0.1050* (0.0001)	1.0000					
Private credit GDP ratio	−0.0797 (0.0020)	*0.2405 (0.0000)	*−0.0058 (0.8240)	−0.2795* (0.0000)	0.5517* (0.0000)	−0.2239* (0.0000)	0.0128 (0.6241)	0.1493* (0.0000)	1.0000				
Restrictions on activity	−0.1372 (0.0000)	*0.0176 (0.4883)	−0.0229 (0.3707)	−0.0216 (0.3959)	−0.0377 (0.1367)	−0.0457 (0.0713)	0.0685* (0.0080)	−0.4661* (0.0000)	−0.0477 (0.0642)	1.0000			
Supervision quality	−0.0044 (0.8722)	0.0132 (0.6269)	0.0195 (0.4797)	−0.1178* (0.0000)	−0.0920* (0.0007)	−0.0636* (0.0195)	−0.4688* (0.0000)	0.2106* (0.0000)	0.0637* (0.0211)	−0.1534* (0.0000)	1.0000		
Overall capital stringency	0.0145 (0.5673)	−0.0703* (0.0055)	0.0133 (0.6026)	−0.0977* (0.0001)	0.2066* (0.0000)	0.0055 (0.8299)	−0.1370* (0.0000)	0.0219 (0.4107)	0.0394 (0.1264)	0.2977* (0.0000)	0.0287 (0.2929)	1.0000	
Government ownership	0.0106 (0.7029)	0.2090* (0.0000)	−0.0420 (0.1357)	−0.0363 (0.1940)	0.2471* (0.0000)	−0.1216* (0.0000)	0.1314* (0.0000)	−0.6361* (0.0000)	−0.1581* (0.0000)	0.2500* (0.0000)	−0.3078* (0.0000)	0.1909* (0.0000)	1.0000

* Denotes significance at 5%.

Table 5
Robustness check for performance of Islamic banks in Africa: controlling for government ownership.

	Business Orientation		Efficiency		Asset Quality		Stability		
	Fee income	Loans deposit ratio	Cost income ratio	Overheads	Loan loss provisions	NPL	Z-score	ROAA	Equity assets ratio
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Islamic	0.0351 (0.127)	-0.854 (1.227)	-0.146** (0.0580)	-0.0358 (0.0639)	0.544* (0.325)	-0.128*** (0.0488)	52.84*** (16.51)	0.00782* (0.00401)	0.0639** (0.0288)
Assets (log)	-0.00422 (0.00386)	-0.0907 (0.0556)	-0.0425*** (0.0141)	-0.00670 (0.00408)	-0.000695 (0.000767)	-0.00294 (0.00326)	-2.761** (1.122)	0.00165* (0.000877)	-0.0130*** (0.00347)
Other earnings	-0.00135* (0.000768)	0.00600 (0.00802)	0.000145 (0.000753)	-0.000734** (0.000297)	0.000470 (0.000796)	-0.000148 (0.000130)	-0.0131 (0.0368)	4.79e-05 (9.26e-05)	0.000249 (0.000509)
Fixed assets	0.659 (0.507)	0.577 (1.804)	6.492*** (1.786)	0.973*** (0.288)	0.0122 (0.120)	1.285** (0.528)	-0.676 (17.54)	-0.430*** (0.0989)	0.171 (0.376)
GDP per capita (log)	0.00497 (0.00932)	0.304 (0.203)	-0.0140 (0.0304)	-0.0572*** (0.0121)	-0.00251 (0.00249)	-0.00422 (0.00753)	0.100 (2.888)	-0.00196 (0.00203)	0.0180 (0.0112)
GDP growth	-0.219 (0.148)	1.759 (2.477)	0.0129 (0.352)	0.564*** (0.129)	0.0449 (0.0453)	-0.0190 (0.161)	9.626 (7.825)	-0.0321 (0.0581)	-0.201 (0.128)
Concentration ratio	-0.0622 (0.0628)	-1.161 (1.538)	-0.0866 (0.116)	0.0871 (0.0541)	-0.0350** (0.0177)	-0.140** (0.0632)	4.374 (6.644)	0.0257* (0.0134)	0.0576 (0.0394)
Financial freedom index	-0.000452 (0.000591)	-0.0114 (0.0123)	6.15e-06 (0.00160)	0.000796 (0.000486)	0.000203 (0.000134)	-0.000880 (0.000564)	0.0669** (0.0314)	-0.000205* (0.000115)	-5.37e-05 (0.000339)
Private credit GDP ratio	0.0332 (0.0398)	0.834 (0.604)	0.203*** (0.0676)	-0.0849** (0.0358)	0.0152* (0.00862)	0.0594** (0.0271)	13.92** (6.668)	-0.0182*** (0.00688)	-0.0472 (0.0303)
Restrictions on activity	-0.000309 (0.0116)	0.373 (0.315)	-0.00112 (0.0183)	0.00488 (0.00779)	0.00579 (0.00393)	0.00980 (0.00887)	3.043 (2.268)	-0.00169 (0.00167)	0.00577 (0.00490)
Supervision quality	-0.000225 (0.00715)	-0.0337 (0.123)	0.00992 (0.0229)	0.0165* (0.00898)	-0.00285* (0.00157)	0.00139 (0.00584)	0.626 (1.537)	-9.45e-06 (0.00155)	0.0116** (0.00548)
Overall capital stringency	0.00144 (0.00508)	-0.167** (0.0806)	-0.0112 (0.0186)	-0.0129*** (0.00499)	-0.00299 (0.00215)	-0.00465 (0.00432)	-0.728 (1.313)	0.00358*** (0.00119)	0.00124 (0.00441)
Government ownership	0.0901* (0.0533)	-0.119 (0.607)	-0.0656 (0.123)	0.231*** (0.0488)	0.0297** (0.0132)	0.155 (0.0963)	20.19** (7.976)	-0.0201** (0.00836)	0.0261 (0.0370)
Constant	0.239** (0.0948)	-0.0640 (1.250)	0.840*** (0.285)	0.899*** (0.120)	0.0432 (0.0279)	0.169* (0.0990)	14.63 (20.49)	0.0268 (0.0222)	0.00278 (0.104)
<i>Year dummies</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>	<i>Yes</i>
Obs	1042	1118	1096	1106	1051	687	1126	1124	1126
Banks	216	217	217	218	213	166	218	218	218

This table compares performance of African Islamic and conventional banks while controlling for government ownership in the banking sector. Our sample is a 6 period panel of yearly observations over the period 2005–2010. It covers 290 commercial banks from 45 African countries. Estimations (1) to (9) are done using GLS clustered by banks. *P*-values are computed using heteroskedasticity-robust standard errors and are reported between the parentheses. *, ** and *** represent statistical significance at respectively 10%, 5% and 1% level. For a detailed description of variables and data sources, please refer to [Appendix 2](#).

Table 6
Robustness check for performance of Islamic banks in Africa: controlling for government ownership and country effects.

	Business orientation		Efficiency		Asset quality		Stability		
	Fee income	Loans deposit ratio	Cost income ratio	Overheads	Loan loss provisions	NPL	Z-score	ROAA	Equity assets ratio
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Islamic	−0.0629 (0.100)	−1.972 (1.672)	−0.0834 (0.108)	−0.152*** (0.0419)	0.587** (0.292)	−0.207*** (0.0747)	40.51** (17.00)	0.0162** (0.00730)	0.0406 (0.0290)
Assets (log)	−0.00782 (0.00876)	−0.196* (0.118)	−0.0710*** (0.0223)	−0.0163** (0.00698)	−0.000649 (0.00103)	−0.00559 (0.00406)	−4.088*** (1.370)	0.00338*** (0.00119)	−0.0259*** (0.00608)
Other earnings	−0.00155** (0.000771)	0.00254 (0.00552)	−0.000769 (0.000532)	−0.000692*** (0.000259)	0.000336 (0.000917)	−0.000488*** (0.000166)	−0.0450 (0.0286)	0.000190** (7.84e-05)	−0.000138 (0.000309)
Fixed assets	0.574 (0.484)	1.895 (2.020)	6.820*** (1.913)	0.857*** (0.288)	0.0117 (0.118)	1.088** (0.478)	−2.187 (17.81)	−0.463*** (0.0992)	0.0618 (0.337)
GDP per capita (log)	−0.0760 (0.0837)	0.396 (0.371)	−0.00836 (0.0734)	−0.0440 (0.0446)	−0.00116 (0.00832)	−0.0134 (0.0179)	−0.350 (8.104)	0.00699 (0.0106)	0.0401 (0.0361)
GDP growth	−0.0164 (0.166)	1.535 (2.671)	0.124 (0.338)	0.524*** (0.139)	0.0307 (0.0454)	0.0366 (0.154)	9.033 (8.211)	−0.102 (0.0808)	−0.303** (0.149)
Concentration ratio	0.00642 (0.122)	−3.134 (3.683)	0.0672 (0.327)	−0.00203 (0.110)	0.0230 (0.0334)	0.142 (0.124)	4.777 (7.299)	−0.0318 (0.0318)	0.0174 (0.0731)
Financial freedom index	0.000352 (0.000468)	−0.0105 (0.0142)	−0.00171 (0.00191)	0.00123** (0.000527)	0.000144 (0.000168)	−0.000358 (0.000636)	0.0749** (0.0366)	4.84e-05 (0.000152)	0.000445 (0.000341)
Private credit GDP ratio	0.119 (0.208)	−3.310 (3.342)	0.685* (0.399)	−0.111 (0.124)	0.104** (0.0463)	0.577** (0.256)	11.13 (12.15)	−0.288** (0.122)	−0.654*** (0.236)
Restrictions on activity	0.0488 (0.0491)	0.998 (1.155)	−0.0253 (0.0862)	0.000489 (0.0286)	0.00399 (0.0130)	0.0514 (0.0456)	12.75** (6.336)	0.0169 (0.0137)	0.0845*** (0.0285)
Supervision quality	−0.172 (1.170)	1.085 (6.257)	−0.0420 (0.841)	−0.218 (0.256)	0.0868 (0.0929)	0.719** (0.323)	7.622 (38.30)	0.103 (0.0920)	0.471* (0.278)
Overall capital stringency	−0.0422 (0.322)	−0.528 (1.821)	0.196 (0.292)	−0.0553 (0.104)	0.0455 (0.0298)	0.282*** (0.0969)	12.28 (17.04)	−0.0174 (0.0256)	0.0633 (0.0940)
Government ownership	0.165 (0.688)	0.384 (3.418)	−0.437 (0.472)	0.0752 (0.127)	0.0685 (0.0547)	0.509** (0.220)	15.21 (12.15)	0.0409 (0.0485)	0.282* (0.159)
Constant	1.395 (7.281)	−2.782 (37.53)	−0.175 (5.551)	2.171 (1.927)	−0.717 (0.597)	−5.221** (2.041)	−149.1 (314.3)	−0.297 (0.556)	−2.589 (1.861)
Year dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Country dummies	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Obs	1042	1118	1096	1106	1051	687	1126	1124	1126
Banks	216	217	217	218	213	166	218	218	218

This table compares performance of African Islamic and conventional banks while controlling for government ownership in the banking sector and fixed country effects. Our sample is a 6 period panel of yearly observations over the period 2005–2010. It covers 290 commercial banks from 45 African countries. Estimations (1) to (9) are done using GLS clustered by banks. *P*-values are computed using heteroskedasticity-robust standard errors and are reported between the parentheses. *, ** and *** represent statistical significance at respectively 10%, 5% and 1% level. For a detailed description of variables and data sources, please refer to [Appendix 2](#).

government ownership in the banking sector. Available empirical evidence shows that countries dominated by public banks are more likely to report lower performance. Results comparing performance of Islamic banks and conventional banks while controlling for government ownership variables are stable and summarised in Table 5. They suggest that Islamic banks have lower cost to income and non-performing loan ratios as well as lower insolvency risk; they are better capitalised and have higher ROAA and they are more conservative when it comes to provisioning bad loans

While results reported in Tables 2 and 5 seem robust, they could reflect non-observable country characteristics. To test this argument, we rerun all specifications in Table 5 while adding country fixed effects. Results reported in Table 6 support our previous conclusion that Islamic banks are more stable. Only equity to assets loses its significance. We also find that Islamic banks have lower NPL ratios and higher levels of loan loss provisions. The above-mentioned results showing Islamic banks to be more efficient than conventional banks through a lower cost to income ratio is not robust to control for countries fixed effects. However, the effect of the Islamic bank type on overheads as an alternative measure of efficiency is negative and significant in column (4).

5. Conclusion

The objective of this paper is to improve understanding of the Islamic finance market in Africa. Specifically the paper provides what we believe is the first comprehensive mapping of the market for Islamic finance in Africa and the first quantitative assessment of foreign Islamic funding that benefited Africa. The last part of the paper empirically explores differences in the performance of African Islamic and conventional banks.

Our mapping exercise reveals that Africa counts 116 institutions offering Islamic financial services: 74 institutions offering Islamic banking, 33 companies offering Islamic insurance (*Takaful*), 4 Islamic investment funds, and 5 institutions offering Islamic microfinance services. Over 40% of these institutions are located in Sudan which imposes compliance with *Shariah* on the entire financial sector. Overall, results show that the market for Islamic finance in Africa remains embryonic.

Consistent with trends observed in the global Islamic finance market, Islamic banking dominates the African Islamic market, yet Islamic banking providers represent less than 10% of commercial banks operating in the 21 countries where Islamic finance is available. Islamic insurance is the second most developed segment with total premiums collected estimated at USD

540 million as of 2012. While North Africa emerges as the region counting the largest number of Islamic finance providers, it ranks second when it comes to Islamic banking which is more developed in east Africa. We attribute this trend to the flexible approach that East African regulators have been adopting. Such approach fosters innovation and may have facilitated the development of Islamic banking in the region. There are also strong cross-country variations in the type of non-banking Islamic finance services that have been developed. While West African countries have been developing Islamic microfinance and *Takaful*, these 2 services are not existent in Morocco. South Africa has been on the other hand more active in offering Islamic investment funds.

We also show that Africa received about USD 14 billion in project finance from Islamic sources over the period 2005–2012, out of which USD 10 billion were provided by Islamic development finance institutions. The main beneficiaries of these resources were projects located in North Africa which alone captured about 82% of the funding provided. This is likely to be a reflection of the conducive environment that North African countries offer and cultural and religious ties with the countries providing Islamic resources. The financial sector was the main beneficiary of this funding followed by infrastructure. Yet, investments in the financial sector were not necessarily done in countries where financial sectors are most advanced such as South Africa and Mauritius. African sovereign and private entities raised also USD 1.6 billion in *Sukuk* over the period 2005–2013 Q2. While amounts received by Africa in the form of *Sukuk* or project finance may seem high at first sight, they remain negligible compared to the continent's needs. For instance, annual funding needs for infrastructure alone are estimated at USD 93 billion.

The last part of the paper provides an empirical investigation of differences in business orientation, efficiency, asset quality and stability between African Islamic and conventional banks. We find that Islamic banks are more stable as they report lower insolvency risk and higher return on average assets. They also have lower NPLs and higher provisions. The result for NPLs is likely a reflection of the asset backed nature of Islamic banking while the result for the loan loss provisioning ratio suggest a conservative approach to provisioning for Islamic banks. We also find some evidence supporting the superior efficiency of Islamic banks. Our findings are robust to controls for government ownership in the banking sector and countries' fixed-effects. While our results should be interpreted with caution given the small size of our Islamic bank sample, we believe that they present interesting facts that could be further explored in future research.

Appendix 1.

Description of samples used in previous studies assessing the performance of Islamic banks.

Reference	Countries/regions	Sample size	Number of Islamic banks covered	Period
Mohamad et al. (2007)	21 countries from the Organization of Islamic Conference (OIC) countries	80	43	1990–2005
Čihák and Hesse (2010)	20 Middle East, Asian and African countries	474	77	1993–2004
IMF (2009)	Gulf Cooperation Council (GCC) countries	50	18	2008
Gamaginta and Rokhim (2010)	Indonesia	83	12	2004–2009
Beck et al. (2013)	141 countries	2956	99	1995–2007
Al-Khasawneh et al. (2012)	4 North African countries	20	–	–
Halkano (2012)	Kenya	7	2	–
Rajhi (2012)	16 Middle East, North Africa and South East Asian countries	557	90	2000–2008
Johnes et al. (2012)	19 countries	255	45	2004–2009

This table describes samples used in the papers discussed in the literature review on the performance of Islamic banks.

Appendix 2.

Variables description and data sources.

Variable	Definition	Source
<i>Bank-performance variables</i>		
Fee income	Share of fee-based income in total operating income. It is calculated as the ratio of net fee and commission to total operating income. Total operating income is the sum of net interest revenues and other operating income	Bankscope
Loans deposit ratio	Total loans divided by total deposits and short term funding. Total loans are the value of the loan portfolio after the deduction of specific loan-loss provisions. Total deposits and short term funding is the sum of customer deposits, deposits from Banks and other deposits and short-term borrowings	Bankscope
Cost income ratio	Total operating costs divided by total operating income	Bankscope
Overheads	The ratio of overhead cost divided by total cost. Total cost is the sum of interest expenses and non-interest expenses	Bankscope
Loan loss provisions	The ratio of loan loss provisions to gross loans	Bankscope
NPL	Value of nonperforming loans divided by the total value of the loan portfolio	Bankscope
Z-score	See Section 3.1	Authors' calculations
ROAA	Return on average assets	Bankscope
Equity assets ratio	Total equity divided by total assets	Bankscope
<i>Bank-specific variables</i>		
Islamic	Dummy variable (=1 for Islamic banks, 0 = otherwise)	Bankscope
Assets (ln)	Natural logarithm of total assets (USD million)	Bankscope
Other earnings	The share of non-interest earning assets in total assets	Bankscope
Fixed Assets	Ratio of fixed assets to total assets	Bankscope
<i>Country-specific variables: Macroeconomic variables</i>		
GDP per capita (ln)	Natural logarithm of the GDP per Capita (USD)	World Development Indicators
GDP growth	GDP growth rate	World Development Indicators
Private credit GDP ratio	Ratio of private credit offered by deposit money banks and other financial institutions to GDP	World Development Indicators
Financial freedom index	Financial freedom is a measure of banking efficiency as well as a measure of independence from government control and interference in the financial sector. The variable ranges between 0 and 100	Heritage Foundation
<i>Country-specific variables: Regulation and supervision variables (please refer to Triki et al. (2013) for a detailed description of these variables)</i>		
Restrictions on activities	Captures information about banks' ability to own and control non-financial institutions and non-bank financial institutions conduct non-core bank activities or offer electronic banking. Higher values indicate more restrictions on banks to offer non-core banking services. This variable is calculated using an unweighted average of indicators and ranges between 0 and 10	Making Finance Work For Africa (MFW4A)/African development Bank (AfDB) financial regulation database
Overall capital stringency	Captures information about capital requirements, loans classifications and provisioning. Higher values indicate more stringent requirements. This variable is calculated using an unweighted average of indicators and ranges between 0 and 10	MFW4A/AfDB financial regulation database
Supervision quality	Captures information about supervisory independence, power and resources in the country. Higher values indicate tighter levels of supervision quality. This variable is calculated using an unweighted average of indicators and ranges between 0 and 10	MFW4A/AfDB financial regulation database
<i>Country-specific variables: Bank market structure and ownership variables</i>		
Government Ownership	Fraction of total banks' assets that is held by the government	MFW4A/AfDB financial structure database
Concentration ratio	Percentage of assets of three largest banks as a share of assets of all commercial banks	World Development Indicators

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