Introduction: empirical research on Islam and economic life

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The turmoil left in the wake of the global financial crisis presents an opportune time to rethink the government intervention/free market dichotomy that has characterized the bulk of conventional wisdom regarding the international financial system. Islamic finance, with its emphasis on reducing risk and preventing harm before it occurs rather than minimizing harm after the fact, offers a compelling approach to finance that can thwart market failures and avert crises before they start.

The unique character of Islamic finance flows naturally from the example of the Holy Quran, and as such there is an unmistakable moral component to it. Islamic finance is built on a foundation of socioeconomic justice for all and sustainable growth facilitated by prudent stewardship of natural resources so that future generations may also enjoy the fruits of economic development. Islamic finance's requirement of shariah-compliance leads to a host of rules and regulations that distinguish it from conventional finance. Chief among them are the prohibition of usury (*riba*), gambling (*maisir*) and unjustified ambiguity (*gharar*), the prerequisite that income be derived from productive economic activities and profits be shared fairly, and the ban on investing in certain industries that are considered forbidden (*haram*) owing to their toxic effects on society.

These idiosyncrasies of Islamic finance clearly help spread socioeconomic justice throughout society. The ban on interest protects the poor from falling victim to predatory lending which exacerbates the cycle of poverty. It also compels the wealthy to invest in projects that have actual value in the real economy rather than passively letting their money grow automatically without putting in any real effort or, worse yet, gambling with other people's money in wild speculation schemes. The often exploitative relationship between borrower and lender is thus replaced by a more equitable arrangement governed by profit-and-loss sharing (PLS) contracts. Under the terms of a PLS contract, both parties have rights and responsibilities and share in any profits or losses that may accrue. By cultivating a more sensible relationship between risk and reward, PLS contracts bolster productive economic activity and entrepreneurship. Financiers do not view borrowers as pawns to be manipulated in their endless quest to maximize profits, but rather as partners.

The admonition against *gharar* helps to ensure that one party to an economic transaction does not exploit the other party by withholding information or giving misleading information. Transparency is of paramount importance. This helps reduce fraud and alleviates the negative effects of information asymmetries, as all parties are apprised of the risks involved and can make informed decisions about their investment.

As outlined above, Islamic finance is not merely concerned with maximizing profit. It is part of a larger moral and ethical code of behavior that permeates all facets of society. This code dictates that it is better to forgo the possibility of profit all together if doing

so will lead to the betterment of society. Nowhere is this mindset exemplified more than in the prohibition of entire industries owing to their status as *haram*. Examples of *haram* industries include some that are fantastically lucrative wherever they are permitted; drugs, insurance, armaments, pornography and gambling. Rather than take the easy money, Islamic finance forbids these activities as they constitute a clear detriment on both the individual and societal level. Islamic finance's strong commitment to stringent moral and ethical guidelines make it uniquely qualified to play the role of potential antidote to a global financial system plagued by crises born of unchecked greed, fraud and speculation.

Islamic economics and finance (IEF) has recently enjoyed a spike in interest and a rise in status from theology-tinged discussion fodder for Muslim intellectuals to full-fledged academic discipline knocking on the doors of university social science departments. This chapter briefly outlines six possible reasons for the recent surge in interest in Islamic economics (IE), as well a way forward for IE to transcend its theological foundations by incorporating the analytical tools befitting a social science.

Islamic economics and finance is gaining traction because much of the Muslim world wants to relive long-gone times when Islam was the dominant force driving world history. Muslims believe they have a responsibility to extend the message of Allah's final messenger to all humanity. Perhaps the spread of IEF could hark back to a time when Islam was largely responsible for the spread of scientific knowledge around the world. Centuries ago, that spread of scientific knowledge was accompanied by widespread conversion to Islam. Islamic economics is also a way for Islamic countries to throw off the yoke of their recent colonial rulers. In an inversion of the power relationship from centuries ago, the more recent past has seen the West dominate the Islamic world both physically and intellectually. Now that Muslim states are politically free from their colonizers, they are seeking to cultivate their own home-grown, Islam-based systems of knowledge. Islamic economics and finance is part of this.

With IEF, solutions to economic problems in the Muslim world can find ready solutions that are tailored to local conditions. It just makes sense that the poverty of the Muslim world can be alleviated by using ideas for development crafted from a faith that is central to the lives and culture of the area. In Islam there is a belief that mankind has a holy duty to be stewards of the earth that Allah has given us. We must always keep sustainable growth as a priority, and IEF provides a framework for us to do so.

Certain Muslim scholars think the West's intellectual dominance has had negative repercussions for Muslim youth. The godless, secular Western educational system is the dominant one throughout the world, and immersion in this system is alienating Muslim youth from Islam. To these scholars, the 'Islamization of knowledge' will help bring the younger generations closer to Allah.

Many Muslim leaders believe in the innate superiority of their sources of knowledge. After all, they are the keepers of the torch for Allah's last messenger. One way for the Muslim world to use their superior knowledge base and supplant the West as the global intellectual standard-bearers is to couch the message of the Quran in terms that would be understandable to academics around the world. Islamic economics and finance can be part of the project of restating the fundamentals of Islam in the modern global vernacular of the intellectual elite. To do this successfully, IEF must progress from its theological underpinnings to adopt the methodology and analytical framework found

in conventional economics. A mature version of IEF will of course have to incorporate testable hypotheses. It is important to see that the existence of falsifiable hypotheses is not incompatible with the Quran being immutable and infallible. Islamic economics and finance must not be exclusive. Its theories and laws do not apply only to Muslims, but to the entire world. Even if divinely inspired, its ideas should be presented in a way that appeals to rationality. Adding the rigorous analytical standards of conventional economics is the only way for IEF to become a legitimate social science and catch on with the global academic community.

Islamic economics and finance can be distinguished from conventional economics not so much by what it subtracts, but by what it adds. Conventional economics paints a picture of the self-interested rational being, coldly calculating the costs and benefits of a transaction to see how best to advance his well-defined preferences. Perhaps this rational man is not quite reduced to a robot, but does he have a soul? It does not matter. Islamic economics, on the other hand, lets this man keep his rational self-interest and not only gives him a soul, but insists that his soul is of paramount importance. Material gain cannot be analyzed without taking into account spiritual fulfillment. Economic activity takes on a moral and ethical dimension. This rational being is not a utility-maximizing automaton bereft of a conscious, but a flesh-and-blood human who is God's servant and vice-regent on earth, tasked with looking after His creation and ensuring that future generations will be able to share in its bounty. His self-interested decision-making is constrained by the norms of his community. His personal benefit must be weighed against the communal benefit. He must not exploit others nor deny to others economic freedoms that he himself enjoys. But can this man, and an entire society of people called on to behave just like this man, possibly compete in a cutthroat global economic environment? This is an important question that needs to be answered empirically.

In the earlier volume, *Handbook on Islam and Economic Life* (2014), there is much emphasis on conceptual and theoretical issues, and the institutions developed to implement the Islamic vision of the economy and society. To this end, the volume has been structured around how Islamic norms shape major aspects of economic life. For *Handbook of Empirical Research on Islam and Economic Life* (2016), the aim is to focus on empirical studies to evaluate how well the Islamic institutions have performed in pursuing their objectives. There is necessarily an emphasis on what can be measured and tested, as opposed to what is conceptualized and formulated. First, according to the 2009 Pew Forum on Religion and Public Life report, 1.57 billion or nearly 1 in 4 people in the world are Muslim (60 per cent in Asia, 20 per cent in the Middle East and North Africa, 15 per cent in sub-Saharan Africa). There are 38 million Muslims in Europe (4 million in Germany alone), and 4.6 million Muslims in the Americas. Second, the growth of universities in Muslim countries and the expanding interest in Islamic thought in Western universities create a receptive audience for the Islamic position surrounding economic matters. Third, the Islamic financial industry, though small relative to conventional finance, has nearly doubled from 2007 to 2010, a period when most conventional banks were struggling. The fact that not a single Islamic bank has needed to be bailed out by taxpayers' money has increased interest in the soundness and resilience of the Islamic financial model.

There is a further reason. Based on shariah, a comprehensive ethic has been formulated governing how business and commerce should be run, how accountability to God and

the community is to be achieved, and how banking and finance is to be arranged. It is important that these ideals be put to the test. In a global business environment largely unsympathetic to the model, how well have the religious-based values translated into actual performance? Are those holding true to the system hindered and put at a disadvantage or have the Islamic institutions been able to demonstrate that faith-based activities can be rewarding, both economically and spiritually? These are matters conducive to modern empirical methods.

This book is divided into five parts: 'Religion and growth', 'Islamic social finance', 'Islamic banking and finance', the 'Islamic capital market' and '*Sukuk* (Islamic bonds)'. What follows is a summary of each of the 30 papers contained in this volume.

In 'Social preferences and values: an experimental analysis for religiosity' Shah et al. suggest that mainstream economic theory makes the assumption that the preferences of individuals are exogenous and of self-regard. Despite this, several cases of laboratory experiments indicate that the preferences of individuals show regard for others. There is a common belief that social values and norms can nurture consideration for others and curb selfishness. This chapter further investigates whether individuals will behave differently if religiosity is controlled. The behaviors of individuals are examined in order to determine if information asymmetry is used for their own selfish gains. An adjusted version of the ultimatum game by Kagel et al. (1996) is utilized to gather the data. For this game, the proposers are given information that is superior in comparison to responders. The information given is the exchange rates of experimental monetary units (EMUs). The proposers also are able to set the exchange rates for themselves and the responders. The responders are only informed about offer amount and the set exchange rates for the conversion of those offers into monetary terms. When the proposers are primed using Hadith, the saying of the Holy Prophet Muhammad Peace Be Upon Him (PBUH), the proposers make more beneficial offers to the responders in comparison to the control group. This occurs even though proposers have information asymmetry to their benefit and could take advantage of this benefit at the expense of the responders. The findings from this study suggest that universal value promotion can provide a benefit for the advancement of 'pro-social and other-regarding' behavior.

'Openness, culture, legal environment and Islamic finance' by Gazdar et al. takes into account the differences in culture and legal origins when analyzing the differences in Islamic financial development among different countries. The sample selected is 29 Organization of Islamic Conference (OIC) countries from the time period of 2005–14. The objective of this chapter is to determine if culture that is proxied by differences in religion and language can be utilized as a means of explaining the dissimilarities in Islamic finance development in different countries. The chapter also looks to determine if legal origins have an impact on Islamic finance development and analyzes the impact of cultural factors on the fall of Islamic finance development as openness to international trade increases.

The findings indicate that there is a relationship between legal environment, culture and Islamic finance. This relationship exhibits strength in regard to the two Islamic finance development indicators. The results also show that the banking systems of Islamic and Arabic countries are significantly more developed than those of other countries. Openness to international trade was found to have both a significant and positive effect on the promotion of Islamic finance and the influence of international trade decreases

the impact of culture on Islamic finance development. The chapter concludes that differences in culture and legal factors are relevant when looking to further understand the differences in the level of Islamic finance development in different countries.

'Islamic finance in movement: public opinion in the Arab region' by Clement Henry states that the development of Islamic banking has been going on since the mid-1970s as a means of peaceful competition with conventional banking. There has been substantial progress throughout the Middle East and North Africa, where Arab Barometer surveys administered show that there is a prevalence of disapproval towards lending based on charging interest as well as general conventional banking. This chapter further examines data generated by these Arab Barometer surveys in order to gain a better understanding of potential Islamic banking client characteristics.

The objective of this study is to help initiate a financial movement that will mobilize and inform people in order to steadily alleviate the informal economics that take advantage of them. There is a potential for Islamic finance to attract entrepreneurs by providing financing to emerging enterprises as well as engage in microfinance, which will help invigorate a neglected segment of the region. Islamic finance has gradually gained market share owing to an increase in demand from Gulf investors with a great amount of wealth. This demand has even expanded into nations with Muslim minorities, such as the United Kingdom. The findings from this study suggest that more inclusive financing would be beneficial for economic diversification, such as in Algeria. Additional transparency and accountability are also needed, since the majority of Islamic financing is based on equity and not based on debt. Investors need to know substantially more about entrepreneurial endeavors that they invest in compared with the standard checklist utilized by borrowers in conventional finance. This need for transparency and accountability is shown through the types of investment Islamic finance engages in as well as what is shown in underlying Islamic financial theory.

'Evaluating the impact of *zakat* by indicator of disaggregated Human Development Index: an empirical finding' by Mohammad Soleh Nurzaman examines how *zakat* (charity tax) can be used in order to help the *mustahiq* (poor people). The *mustahiq* of *zakat* are defined as the poor people who have income below the minimum level. The data used in this study is obtained through a questionnaire survey as well as data from the World Health Organization and Badan Pusat Statistik (Indonesia Statistical Office). A cluster sampling method is also performed in order to generate samples and a two-stage sampling method is utilized in order to conduct the survey. The *zakat* institutions are chosen and become the subjects of study and a simple random sampling of clusters is performed in order to generate respondents for the survey. Two quantitative techniques are also used in the study. The value of the Human Development Index (HDI) is estimated at the household level. A panel data regression is utilized in order to determine if the *zakat* amount and other selected factors had an impact on the estimated HDI.¹ A disaggregated HDI for household of *mustahiq* is determined by calculating the average of the Life Expectancy Index, Education Index and Standard of Living Index, and a regression analysis was performed in order to determine the factors affecting the HDI. The findings indicate that *zakat*, especially productive-based *zakat*, has the potential to contribute to improving the welfare of poor households. Despite this, the amount of *zakat* will need to be significant in order to obtain this positive result. *Zakat* institutions as well as public awareness, and the government

implementing favorable regulations, are needed in order for *zakat* to be distributed to *mustahiq*.

In 'Poverty, finance and institutions: evidence from OIC countries', Muhammad Tariq Majeed suggests that eliminating poverty has been a key issue and challenge throughout the modern world. Previous research has focused on economic growth as a strategy to eliminate poverty. Owing to the unrelentingly high poverty levels, the focus of economic growth has diverted to other ways to eliminate poverty. Financial development is one of the new initiatives for this issue. This chapter takes a closer look at the potential impact of financial development and financial institutions on poverty. In order to determine the presence of a relationship between financial development and poverty reduction, panel data for OIC developing countries from the time period 1984 to 2012 is used, with financial development being measured using a private credit/gross domestic product (GDP) ratio and broad money/GDP ratio. Institutional quality is measured using five indexes, which are corruption in government, law and order, bureaucratic quality, democratic accountability and government stability. The findings reflect that economic growth contributes to reducing poverty. Financial institutions also play a significant part in impacting on poverty reduction. Finance as a role is considered important, but it is not robust, since it also depends on the financial development proxy. Law and order appears to be one of the most vital components of the framework of financial institutions that helps with poverty reduction, with corruption being one of the main causes of poverty for OIC developing countries. The chapter concludes that financial institutions are necessary for helping the poor in OIC developing countries and recommends that poverty reduction programs should advocate for the policies that build financial development in OIC countries.

'The social and cultural impact on firms' access to finance in an Islamic environment' by Charilaos Mertzanis looks at what factors determine a firm's access to finance in an Islamic environment. Inability to access finance continues the cycle of income inequality and inhibits firm growth. Financial access indicators are still in development and this chapter provides additional research on this topic, by examining the extent of the obstacles firms encounter in a sample of Islamic countries when attempting to access financing. Survey data is collected from private sector firm responses. Firm-level and country-specific factors are examined to see how much they interfere with accessing finance. This chapter adds to previous literature by focusing on Islamic countries and looking at the impact of their socioeconomic development differences as well as utilizing the most current microenterprise survey data collected by the World Bank. The chapter also introduces additional behavioral elements by analyzing the impact of institutional and human development indicators. The findings from this study indicate that specific firm characteristics, including firm age and size can be effective predictors of financing constraints. Other factors, such as external audit of accounts and government ownership can vary according to certain institutional conditions and model specification. In the sample, the firms' access to finance determinants varied between more and less developed countries as well. The results also indicated that countries' social and cultural characteristics have an effect on the ability to access finance. From these findings, the chapter concludes that certain classifications used to characterize constrained from unconstrained firms are more effective than others and this analysis of constrained access to finance is still in need of further research.

'Reporting of *zakat* and charitable activities in Islamic banks: theory and practice in a multi-cultural setting' by Rashid et al. takes a closer look at the reporting of *zakat* and charitable activities of Islamic banks in Bangladesh, Malaysia and the Arabian Gulf countries, determines the average size of the *zakat* amount and compares *zakat* reporting and charitable activities to ethical identity indicators. *Zakat* and charitable reporting is important, because it indicates the level of initiative Islamic banks have on utilizing socially responsible business practices. This study contributes to the existing literature on *zakat* and charity reporting by Islamic banks. Weber's appearance-based content analysis was used in order to understand the practices of *zakat* and charitable reporting. The average is calculated by activity, year and nation into pre-crisis and post-crisis periods. Two layers of *zakat* and charitable contributions are considered. The first layer looks at *zakat* reporting as value-enhancing to stakeholders and the second layer considered this type of 'social reporting' as indicating the level of ethics, reputation, and philanthropy that the bank engages in. Because customers value their banks to engage in corporate social, philanthropic, ethical and environmental endeavors, banks should report the level of these practices. Benevolent loans called *qard hasana*, which are loans given to borrowers with no profit charged by the lenders, are considered a means of charitable activity utilized in Islamic economics, but a clear policy on their practice is not included in Islamic banking. The findings determine that *zakat* and charity reporting is impacted by standard-setting organizations and that there is an increase in overall *zakat* and charity reporting from pre-crisis to post-crisis periods. The results also indicate that reporting charitable activities is considered more important in secular countries and *zakat* reporting is considered more important in Islamic countries, and that banks did not report or practice *qard hasana*, which could be a means of contributing to social development in Islamic countries.

In 'Achieving sustainable economic development through Islamic microfinance and the potential of a proposed two-tier *mudarabah waqf* business model', Mobin and Ahmad state that addressing poverty is a global issue, with 30.6 percent of the current world population of 7.2 billion living below the average poverty line. International and national institutions are creating and implementing programs that provide job opportunities to the unemployed and help build microenterprises. Islamic microfinance gives underprivileged people the opportunity to bring themselves out of poverty by providing them the needed funds and guidance in order to engage in micro-entrepreneurial ventures. This chapter proposes a two-tier *mudarabah* (investment account) model based on cash *waqf* as a possible alternative to the current Islamic microfinance institutions (IMFIs). This chapter details this business model as well as providing reforms to the present institutional framework for Islamic microfinance and *waqf* institutions. The most used business models in microfinance that are discussed in this chapter are the Grameen Bank model, village bank model, credit union model, and self-help groups model. The objective was to test the feasibility of the proposed cash *waqf*-based microfinance model. A sample of 90 conventional and Islamic microfinance institutions were used in this empirical study. The tests conducted in this chapter were cointegration, vector error correction model (VECM) and the system generalized method of moments (GMM) technique. The findings of this study indicate that cash *waqf*-based microfinance institutions can have a vital impact on financial inclusion and improving socioeconomics conditions for the poor and underprivileged members of society. The

primary reason behind developing this model is to ensure a way for the institution to survive and grow.

In ‘Can Islamic banking increase financial inclusion?’ by Ben Naceur et al., financial inclusion is defined as the proportion of the population that utilizes financial services. It has been linked to beneficial economic outcomes which are related to the concept of financial depth. The OIC observed through various indicators that financial inclusion tends to be lower in Muslim countries than in other countries. Individuals citing religious reasons for not using bank accounts is also higher. This indicates the presence of opportunities for Islamic banking to support the increase of financial inclusion. This chapter looks at the existing country-level information for both financial inclusion and the presence of Islamic banking in order to determine the impact of Islamic banking on financial inclusion. This relationship between financial inclusion and Islamic banking has been tested by examining supply-side data contained in the IMF’s Financial Access Survey (FAS), user-side financial inclusion databases and trends in supply-side measures of financial inclusion in Muslim countries. The chapter utilizes two tests. The first evaluates if user-side measures of financial inclusion from the Global Findex dataset are related to different measures of Islamic banking. The second test assesses the impact of the above relationship once structural determinants of financial inclusion are accounted for. The chapter proposes adjustments to the Islamic banking operating models in order to enhance financial inclusion through recent studies and from results obtained from this chapter. These proposed adjustments are to separate small and medium-sized enterprise (SME) business units, improve bank personnel training in shariah-compliant instruments, and support the development of private equity (PE) and venture capital (VC) activity. The establishment of Islamic equity funds for SMEs and the institutionalization of Islamic redistributive mechanisms could also contribute to greater financial inclusion.

‘Social tax and transfers for poverty alleviation: a case for low- and middle-income countries’ by Shirazi and Zarka implies that income inequality and poverty is an issue that is pertinent to both emerging and established countries. Welfare programs and social security programs have been used as a means to solve this problem. This has been effective in most developed nations, but has not been effective in the majority of countries. Previous literature, such as Lusting (2012), has shown that cash transfers in Latin American countries to large proportions of the extreme poor have been effective in improving income distribution if they are substantial enough to fill the poverty gap, which is the mean distance from the poverty line to the per capita income of the poor. Transfers from the rich to the poor as a means to solve these issues are garnering attention from policy makers throughout the globe. This chapter looks at the potential of *zakat* by looking at its possible impact on different poverty measures if all low- and middle-income countries adopted *zakat*. The chapter proposes that administering direct transfers to the poor will reduce extreme poverty and improve income distribution.

The findings from this paper reflect an immediate effect on the reduction of extreme poverty and improvement on income distribution if cash transfers are distributed to the lowest 20 percent of the population from low- and middle-income countries, with the median transfer in national income being 46 percent. The findings suggest that multidimensional policy that is integrated with a type of *zakat* has a great amount of potential in helping to alleviate poverty.

‘The impact of the global financial crisis on Islamic banking’ by Alqahtani and Mayes

implies that the global financial crisis (GFC) has given researchers the opportunity to test several hypothesis that look at the relative advantages conventional banks and banks that follow Islamic principles. One hypothesis states that Islamic banks should provide more stability than conventional banks, because Islamic banks do not engage in the utilization of the more risky products that impacted the substantial losses incurred in the US. Islamic banks also share risk by engaging in joint stakes in projects instead of charging interest on debt financing. This has been suggested to be the reason behind why Islamic banks are less susceptible to failure, since their value of liabilities decreases at the same rate as their value of assets. Nonetheless, there is an opportunity cost to not engaging in derivative products that aid in risk management. This leads to a net effect determination that is problematic. In order to provide further research on this topic, this study uses two measures, which are distance to default and z-scores. These two measures empirically evaluate Islamic and conventional bank stability before, during, and after the GFC from 2000 to 2013. The sample consists of 76 banks across six economies of the Gulf Cooperation Council region, which have comparable economic, political and cultural characteristics. The findings indicate that during the initial phase of the GFC, both conventional and Islamic banks were slightly affected. However, during the closing of the crisis, Islamic banks fared worse than conventional banks. Accounting-based z-scores also indicate that conventional banks are more stable than Islamic banks. The chapter concludes that Islamic banks are at a disadvantage in comparison to conventional banks, owing to their inability to respond to adverse market shocks due to being smaller in size, early stages of development and accelerated growth. These issues should decline over time, through monitoring risks, developing advanced tools for risk management, and determining an optimal means of profit and loss sharing that will buffer against losses.

‘Country governance and the performance of Islamic and conventional banks: international evidence’ by Sufian et al. examines the impact of country governance on bank firm efficiency. Previous literature on this topic is limited, despite the importance of banking in the economy, since it is the most vital channel for savings and credit allocation in a country’s economy. This study analyzes 454 Islamic and conventional banks from 19 countries that offer Islamic banking and financial and services. The study contributes to the existing literature by bringing new empirical evidence on the impact of country governance on the revenue efficiency of both Islamic and conventional banks. The study contains three stages. The first estimates the efficiency of revenue, cost and profit of Islamic and conventional banks. This is done by the data envelopment analysis (DEA) method. The second stage is done by performing a series of parametric and non-parametric tests in order to validate the results from the first stage. The third stage, a panel regression, is done with ordinary least squares regression and the generalized methods of moments methods in order to find what the potential determinants and the country governance effect on revenue efficiency. The research findings indicate that voice and accountability have a positive impact on efficiency for both Islamic and conventional banks with a negative impact of political stability, absence of violence and control of corruption. The results suggest that government effectiveness, regulatory quality, and the rule of law have negative effects on conventional bank efficiency, which does not hold for Islamic banks.

‘How institutions shape the gap in efficiency between Islamic and conventional banks’ by Laurent Weill investigates the effect of institution quality on Islamic and conventional

bank cost efficiency. The changes in institution quality can influence the cost efficiency gap between Islamic and conventional finance. This situation could in turn contribute to the expansion of Islamic finance. The bank cost-efficiency is measured from a dataset of banks from 17 countries where both Islamic and conventional banks coexist. The stochastic frontier approach is used in order to estimate banking efficiency scores as well as their determinants and through this approach is able to filter inefficiencies from statistical noise and be able to include the exogenous events into the residual. This is done with a one-stage approach by Battese and Coelli (1995). The research findings indicate that Islamic banks have lower cost-efficiency compared to conventional banks. This issue can hinder the expansion of Islamic banks, since there are more costs linked to higher prices. Despite this, the better institution quality lowers the gap in efficiency between conventional and Islamic banks. The study concludes that a reduction in the disadvantage in Islamic bank efficiency of Islamic banks in comparison to conventional banks can result from improved quality of Islamic bank institutions, which can therefore favor Islamic finance development. These findings can help assess the evolution of Islamic finance. Cost-efficiency is a perpetual advantage that conventional banks have over Islamic banks, but if Islamic banks focus on the improvement in quality of institutions, this can reduce and possibly counteract this obstacle.

'Differences between Islamic and conventional finance in Malaysia', by Krasicka and Nowak, states that although the financial services industry comprises just 1 percent of global financials, the industry has exhibited strong growth for the past decade. This type of expansion has been seen in 2011, when Islamic financial assets grew to US\$1086 billion. This shows a remarkable 21 percent growth from 2010 (Oakley, 2011). Malaysia has strived to become one of the main players of the Islamic finance market and has grown to becoming the third largest market in the Islamic finance industry. Additionally, Malaysia's *sukuk* market is the largest in the world. This chapter looks at comparing the conventional and Islamic banks in Malaysia by analyzing the bond and stock returns from 2006 to 2001 and examining what macrofinancial factors drive these returns. The chapter also focuses on the performance shifts of conventional and Islamic banks and looks at determining the impact of the global financial crisis on the profitability and liquidity of conventional and Islamic banks. The findings indicate that, as Malaysia's Islamic financial sector matures, the gap between the financial practices of conventional and Islamic banks is in the process of shrinking. Because Malaysia's financial market is competitive and efficient, this is considered a natural convergence. Through providing Islamic alternatives to conventional financial products, Islamic banks are able to give the formerly under-banked Muslim population access to finance in Malaysia. The findings also suggest that the systematic differences between conventional and Islamic banks have reduced over time and could be from varying business models instead of shariah principles.

'On the co-existence of conventional and Islamic banks: do these banks differ in business structure?' by Zaheer and Farooq implies that Islamic and conventional banking institutions exist together in several Muslim countries and in a few western states, with Islamic banking and finance (IBF) being established in some jurisdictions and nascent in others. Islamic banking and finance has high growth potential, especially due to its better performance during the recent financial crisis. This chapter looks at the differences between Islamic and conventional banking operations. Bank-time fixed effects are

applied to determine how Islamic and conventional banking operations differ within the same bank in terms of their business structure and efficiency using individual quarterly financial accounts of all commercial banks from the banking sector data in Pakistan. The findings indicate that Islamic banking institutions (IBIs) are less reliant on non-deposit funding, have a lower loan to asset ratio and are less involved in financial intermediation in comparison to conventional banking institutions (CBIs). Islamic banking institutions are found to be less efficient, although when their size increases, their differences in cost-efficiency and business structure in comparison to each other decreases. Correlations between all indicators were examined and the results indicate that IBIs have a lower ratio of non-interest/markup income to total income and non-deposit funding. A Wald test was conducted in order to check if the behavior of small and large IBIs differ in terms of business and cost-efficiencies. These results indicate that that Islamic windows of large banks are more reliant on non-deposit funding and are not as involved in financial intermediation as Islamic windows of small mixed banks, and large mixed banks are less efficient than small mixed banks. These results conclude that there are innate differences in the business orientation of Islamic and conventional banking institutions and there are also differences within mixed banks in regards to efficiency indicators.

‘Macroeconomic shocks and Islamic bank behavior in Turkey’ by Aysan et al. states that macroeconomic shocks, such as the ‘credit crunch’, ‘bank run’, ‘financial contagion’, ‘flight to quality’ and ‘systemic risks’ have occurred recently on a global scale. This chapter examines the relationship between macroeconomic shocks and banks’ behavior through looking at the process of policymaking, financial intermediation, and the response to the economy’s boom and bust cycles. This is done specifically by examining the response of deposits and credits in Islamic and conventional banks in Turkey to monetary policy shocks, business cycle fluctuations and the perceptions of external risk. The proxies used are the gross domestic product level, overnight money market rate and the Chicago Board Options Exchange Volatility Index (VIX) for business cycle, monetary policy and external risk perceptions. The descriptive statistics from this study indicate that Islamic banks are more capitalized and leveraged than conventional banks in the sample period. This reflects the growth of Turkey’s Islamic banking sector from 1 to 6 percent of market share in the sample period. Risk aversion in advanced countries paired with yield preferences has influenced the increase in capital to markets in emerging countries. Turkey’s economic resilience after the 2008 financial crisis has attracted a substantial amount of internal and external capital. The study also observed a difference in reaction from Islamic and conventional banks to a cycle shock. Positive GDP shocks resulted in a negative affect towards conventional bank deposits and the same shock resulted in a positive effect on Islamic bank deposits. These results indicate that Islamic banking can be considered pro-cyclical. Owing to its practice of supporting clients in ‘bad’ economic times as well as decreasing excessive financing during ‘good’ economic times, clients have responded by increasing bank deposits in Islamic banks. Further research could be conducted on the effect of pro-cyclicality of Islamic bank financing on businesses, households and the economy.

‘Explaining intermediation costs of Islamic banks in OIC countries’, by Malim et al., states that recent Islamic literature has greatly featured the resiliency of Islamic banking during the global financial crisis. Islamic banks have been considered to contain the potential for bringing stability to the financial system. Despite several studies that

provide evidence that supports this theory, there are still concerns about how different Islamic banks are from their conventional counterparts. Previous studies have looked at the intermediation costs of Islamic banks in comparison to conventional banks. Beck et al. (2013) have conducted a comprehensive analysis of Islamic and conventional banking. This was done through a comparison of their business models and levels of efficiency and stability. Their findings provide evidence that Islamic banks are better capitalized and have a higher intermediation ratio. Despite this, they find that Islamic banks are less cost-efficient. Another study by Poghosyan (2013) stated that there is a need to further evaluate the intermediation costs of Islamic banks. This chapter looks at explaining these intermediation costs, through capturing these costs by the net financing margins from a sample of panel data from Islamic banks in OIC countries. The findings indicate that net financing margins have a positive relation to risk aversion, credit risk and inflation. This indicates that Islamic banks have a limited means of utilizing risk management instruments while simultaneously having their business activities concentrated on financing. This reflects a need for the Islamic finance industry to develop risk management instruments in order to stimulate financial product innovation.

‘Liquidity risk management in emerging and Islamic markets in post-financial crisis in the Gulf Cooperation Council’, by Mazin A.M. Al Janabi, suggests that owing to the recent financial crisis, there is a great need for identifying and assessing the amount of embedded liquidity risk inherent in financial trading portfolios in emerging and Islamic markets. This liquidity risk results from the lack of ability of financial entities to be able to liquidate their asset holdings at acceptable prices during the liquidation period. Market risk-exposure is a vital issue in financial trading portfolios that contain illiquid assets. There are several ways to identify, measure and control liquidity trading risk. The approach of simulation and testing is based on which is the liquidity-adjusted value at risk (LVaR,). This test is performed in this chapter together with applying an optimization risk-algorithm that utilizes the matrix-algebra technique. Trading risk managers have to determine which method to utilize for their needs. The most vital dynamics are establishing sound practices, policies and standards, as well as consistency in the process of implementation through all lines of businesses and risks. The chapter findings suggest that there are strong asymmetric behaviors in the returns distribution of the sample indices as well as the two benchmark indices. The findings also suggest that upper LVaR risk-budgeting limits-setting is an important issue in regard to the daily risk management process needed for strategic decision-making that are within the trading of financial entities. The methodology discussed in this chapter as well as the risk assessment optimization algorithms have the potential to support progressing risk management practices that are in emerging markets and Islamic markets an especially in the aftermath of the most recent credit crisis and the resulting global financial crisis.

In ‘How efficient are the commercial, investment and Islamic bank managers in Jordan?’ by Isik et al., the authors examine the X-efficiency of banking firms operating in an emerging market, with the focus being on the Jordanian experience. The study analyzes a panel dataset from 1996 until 2001 from the from the Amman Stock Exchange (ASE) and the Central Bank of Jordan (CBJ), which includes information on the balance sheets, profit-and-loss statements, ownership and board structures, and company shares of national Jordanian banks. Managerial efficiency is examined, with it being segmented into pure managerial efficiency (PME) and scale efficiency (SE). This metric measures

whether a bank employs the minimum amount of inputs to produce a given amount of outputs. A production model was developed in order to determine the X-efficiency of the Jordanian banking sector. The correlates of efficiency were also analyzed in order to determine the characteristics of efficient banks. The findings from this study suggest that efficiently run banks are highly regarded by investors in the stock market as the market to book value ratio is significantly correlated with productive efficiency.

'Does Islamic investment accrue hedging benefits?' by Ashraf and Khawaja examines if investing in shariah compliant indices (SCIs) can be used as a hedging benefit for investors when there is an adverse movement in capital markets. Fifteen SCIs are constructed by adhering to the three primary shariah screening criteria from five regions. Analysis is done on the relative performance of SCIs and conventional benchmark indices (BMIs) across different markets under different market conditions that are similar to the 'bull' and 'bear' classification. Two contributions are provided by this study. The first is the construction of SCIs and BMIs that come from the same equities pool and methodology. This assisted in the fair performance attribution of the shariah screening. The second is the improved estimation techniques used that modeled performance behavior over the sample period during different phases of the capital market. From using the constant risk market (CRM) and logistic smooth transition autoregressive (LSTAR) models, the results indicate that SCIs typically have less risk than conventional BMIs. Despite this, there was no evidence found that suggests hedging benefits across all markets and the shariah standards during the 'bear' markets. The only exception is for the SCIs that followed the market value of equity (MVE) approach from the US. During the SCI performance comparison based on the shariah standards, performance deviation was found with the SCIs that followed the book value of total assets (BVTA), or the MVE in the denominator of the financial ratios used in their respective screening process.

'Volatility forecasting, value-at-risk and expected shortfall estimations under the Basel II Accord in GCC sharia stocks' by Aloui et al. focuses on determining a more effective means to assess risk for shariah-compliant stocks in the Gulf Cooperation Council (GCC) countries. This is done using the value-at-risk (VaR) and expected shortfall (ES) under Basel II Accord rules. Daily data is taken from Saudi Arabia, Kuwait, Oman and United Arab Emirates from July 2010 to July 2013 and the forecasting analysis from this data uses the normal, Student and skewed Student return innovations' distributions. The findings from this study indicate that the APARCH model outperforms all other specifications under the skewed Student distribution and provides a more accurate VaR and ES forecast for the out-of-sample. These results support conclusions from previous literature, such as Giot and Laurent (2003a, 2013b), Al Zoubi and Maghayereh (2007) and Diamandis et al. (2011). The findings also conclude that the models with shariah returns distributions that have jointly accounted heavy tails and asymmetry produce more accurate ES and VaR forecasts in comparison with normal errors. Thus, the results suggest that asymmetry and fat-tails are considered an integral part to accurately forecasting VaR models for shariah stocks. This APARCH model produces the lowest number of violations to the Basel II rule when using a 99 percent confidence level risk exposure for the four shariah indexes. Findings from this study can be utilized by hedge funds and policy regulators for assessing shariah market risks and hedging shariah portfolios. The findings also support Basel II recommendations that financial institutions should build their own models for forecasting VaR.

‘Do stock returns react to an Islamic label?’ by Hayat and de Anca takes a look at the effects of US stock returns that are under the Islamic label and what the effects are of this label. Previous literature is scarce and covers mostly stocks from specific developing countries over a short time frame. This study uses US stocks from the FTSE Shariah Global Equity Index and utilizes Carhart four factor for calculating expected returns. This is performed by examining US stock abnormal returns when the stocks join or withdraw from the Islamic index. Three hundred and seventy-two additions and deletions are analyzed over a period of ten years. The expected returns are calculated utilizing a model that controls for a market, value, growth and a momentum factor. An analysis was also performed on the addition and the deletion of variables that were used in explaining the index effect on the S&P 500 to see if liquidity (traded volume), profitability (earnings per share), investor recognition (analyst following) or risk (beta and volatility) showed any differences in the time period where the stock joined or withdrew from the Islamic index, which will explain the reason behind this possible Islamic label effect. The results indicate that stocks joining or withdrawing from the Islamic index do not lead to abnormal returns, which is contrary to previous literature. The effect on daily returns from the stocks joining or withdrawing from the Islamic index is not significant. These findings hold for both short-term and long-term periods. The study concludes that the Islamic label does not reveal supplemental financial information to investors.

‘Taking a leap of faith: are investors left short changed?’ by Nainggolan et al. takes a closer look at shariah-compliance and its impact on performance for the faith-based ethical funds, Islamic equity funds (IEFs), and analyzes IEF performance and whether fundholders forego financial returns for their religious beliefs. Islamic equity funds select investments based on their risk, return and shariah-compliance. Islamic scholars have stated that the intention of Islamic funds is not to outperform conventional funds, but to provide a return that is compliant with Islamic laws. This chapter tests the relationship between shariah compliance and IEF performance. A comprehensive database is constructed of shariah-compliant equity funds and in order to measure relative fund performance. In order to analyze the cross-sectional differences in the compliance of IEFs, a regression is done on the measure of shariah-compliance on a number of fund and country-level factors. The univariate tests of difference in fund characteristics show that only fund size is significantly different across the two groups. On average, smaller funds are more shariah-compliant. Little evidence is found that shows the importance of the fund disclosure practice in determining the fund compliance level. Consistent with the univariate results, funds that charge higher management fees are significantly more compliant. Regression results indicate that IEFs underperform matched conventional funds by a relatively small amount. These results are robust across the various factor models and are consistent with the hypothesis that shariah compliance decreases performance. This indicates that investors sacrifice returns in their effort to comply with their religious (Islam) beliefs. However, the results are economically quite small.

‘Quantitative studies of Islamic and conventional assets’ by Akhtar and Jahromi conducts three quantitative studies that examine Islamic and conventional bank stock and bond assets by analyzing the impacts of the financial crisis and macroeconomic news surprises on these stock and bond assets. The underlying goals of the studies are to contribute to the quantitative research on Islamic financial instruments and provide key information for local and international investors setting investment and portfolio

management strategies involving Islamic assets. The main difference between Islamic and conventional finance is that Islamic finance requires compliance with shariah laws. These laws prohibit investment in certain practices such as charging interest (*riba*), being involved in transactions involving unnecessary uncertainty (*gharar*), and gambling (*maysir*). Gambling includes practices such as short selling, arbitrage, betting and speculation (Abdul Aziz and Gintzburger, 2009). The first project studies the Malaysian stock market and the performance characteristics of Islamic and non-Islamic stock portfolios in comparison to the market portfolio. The findings from this study suggest that Islamic stocks are closer to the mean-variance efficient frontier than non-Islamic stocks. The second project examines the impact of unexpected macroeconomic changes on stock and bond returns and the differences in volatility between Islamic and conventional assets in 11 countries. The findings indicate that with just a few exceptions, new information is impounded into the price of Islamic stocks and bonds similarly to how new information is impounded into the price of conventional assets. The third project uses a panel regression and alternative approaches to examine the impact of the global financial crisis of 2007–09 on Islamic and conventional assets in 11 Islamic countries and eight non-Islamic countries. The findings indicate that Islamic stocks had substantial protection during the first stage of the crisis. This is probably due Islamic assets not investing in sub-prime mortgage securities and derivatives that contributed to the crisis.

‘Profit-sharing ratio as a screening device in venture capital’ by Mehri et al. suggests that venture contracts in both Islamic and conventional banking face issues with agency problems owing to information asymmetry and inefficient incentives. The agency relationship between the venture capitalist and the manager can be considered inefficient owing to the lack of information on the financial investment and on the type of manager selected for the financial investment. The determined profit-sharing ratio between the venture capitalist and the manager could be used as a screening device in order to effectively match the venture capitalist with the most suitable financial investment and manager. The Islamic banking industry provides financing to entrepreneurs through two main financial products, which are the profit-sharing contract ‘*mudaraba*’ and the profit-and-loss sharing contract ‘*musharaka*’. These contracts are considered today to be Islamic venture capital. Despite these two products being included in Islamic financial literature, these contracts are not commonly included in the portfolios of Islamic banks. This could be due to agency problems. This chapter takes a closer look at this by studying previous literature written on agency problems, comparing Islamic and conventional venture financial contracts in order to examine the relevant similarities and differences, analyzing agency problems encountered in the selection stage, examining agency problems in the investment stage, and explaining the background and issues with the optimal profit-sharing ratio reported from both theoretical and empirical research studies on Islamic venture financial contracts. The chapter also proposes the profit-sharing ratio theory, which can act as a screening device for venture financial contracts and takes into account the information asymmetry between the manager and investor.

‘On the dependency structure of Islamic assets’ by Bekri et al. states that the dependence among the assets and risk factors is vital in asset allocation and risk management. This includes the specified univariate modeling of the stocks. A misspecification of the modeling of the dependence structure can lead to an inaccurate modeling of the whole portfolio. Thus, determining an appropriate modeling of the dependence structure is

an important component of the portfolio management process. This chapter studies the dependence structure of six representative shariah-compliant stocks from the Islamic finance industry and reflects how the copulas obtain the amelioration of the modeling of the dependence structure in the Islamic finance industry. Two dynamic copula models, the copula-Garch and the copula Vines models, were examined. Bekri (2014) supports the rejection of the normality assumption and the correlation, since it assumes normality. Because of this, copulas have become the standard tool in modeling dependence for financial time series and have experienced an increase in application in the financial sector. Copula models are utilized in the statistical tests for this study. The results from the statistical tests are successful in taking the empirical evidences in the sample data into consideration. The copulas-Garch allow for the modeling of the volatility clustering effect. The C and D Vines copulas allow for more flexibility to model the studied stocks, in a two by two fashion. The rejection of the normality assumption and the use of the Student's *t* copula in order to catch the tail dependence structure allows for relevant additional information. The results from these test are considered promising and indicate the advantages of employing dynamic copulas in Islamic finance. The assessment of the dependence structure allows for finding the profit of the low correlations to diversify the portfolio and hence allows for better control of the Islamic finance portfolio risk.

'Malaysian investors' perspectives on the integration and co-movement of Islamic stock markets in developed and developing countries' by Naseri et al. examines the ways international stocks are linked are impact the financial decisions of international traders. Both Markowitz (1958) and Grubel (1968) acknowledged how international diversification can decrease a portfolio's total risk. The increase in comovement among assets can returns may reduce the advantage in investment portfolios that are internationally diversified. Changes in the patterns of comovement indicate a need for portfolio adjustments. The objective of this chapter is to determine the comovements and integration of international Islamic stock markets. This is done by separating Islamic stock markets into two categories, developed and developing markets, and then examining which market is preferred by the Malaysian investor. This study utilizes the dynamic conditional correlation (DCC) model under multivariate GARCH (MGARCH), wavelet coherence, continuous wavelet transformation and MODWT analysis on five shariah stock returns. This study applied the DCC model under MGARCH, as well as wavelet coherence, continuous wavelet transformation and maximal overlap discrete wavelet transform (MODWT) analysis. This testing is done on five shariah stock returns in order to find the conditional correlation, integration and variance of the Islamic stock returns. The findings from this chapter suggest that the volatility of Islamic stock returns is affected by the conditions of the regional market.

'A wavelet approach to time-scale relationships among the Islamic and conventional stock markets and LIBOR' by el Alaoui et al. discusses how the recent series of financial crises has induced aversion towards conventional assets and increased investment in the Islamic financial sector. The unique characteristics of Islamic stocks are expected to differentiate them from conventional stocks, that is, lower financial leverage, an under-diversified market, firms with smaller size, as well as constraints from adhering to shariah laws. This chapter examines the differences between conventional and Islamic investments in stock markets with the study mainly focusing on the heterogeneity in

investment horizons or timescales. The data examined is from the Dow Jones Islamic European (DJI European) index return and its counterpart indices' returns across different timescales. Only major indices were selected, because it will give a clearer picture of the differences between Islamic and conventional stocks. The additional indices examined are the Dow Jones Islamic Asia (DJI Asia) index return, Dow Jones Islamic US (DJI US) index return, Dow Jones Islamic World (DJI World) index return, and Dow Jones conventional US (DJ Conventional US) stock index return. The final analysis looks at the impact of the London Interbank Offered Rate (LIBOR) on the DJI European index, since Islamic finance should be theoretically absent of interest or have little relation to interest rates. The chapter utilizes the wavelet approach, both discrete and continuous. The discrete technique is used in order to analyze the time series in both time and frequency domain and the continuous technique is used to uncover the characteristics of the time series behavior in terms of lead-lag relationship. The findings suggest that there is significant correlation between the DJI European stock return and select continental/global DJ Islamic and DJ US conventional stock returns at different time-scales. The relationships present between these stock indices provide evidence of multi-scale tendency. Also, there appears to be a strong correlation between the DJI European stock index and LIBOR, notably during the sudden change. The DJI European stock index also reflects that there was an impact from the financial crisis, which is in terms of contagion in volatility associated with implications for portfolio diversification.

'Testing the financial distress prediction model for *sukuk*-issuing companies in Malaysia' by Shafi et al. examines if existing distress prediction models can apply to companies that issue *sukuk*. The motivation behind this analysis stems from several high-profile *sukuk* defaults. The existing trade-off theory is explored within this chapter. This theory states that firms determine their optimum proportions of debt and equity by balancing the tax benefits of debt compares to the costs of financial distress. If a firm uses excessive amounts of debt, then the firm will increase its potential for bankruptcy. The objective of this chapter is to determine which predictors provide high prediction power for *sukuk* companies and bond companies, to analyze the prediction ability of these models and to create a financial distress prediction model which can be used for *sukuk* companies. The findings indicate that the exiting model of financial distress prediction can be utilized for *sukuk* companies. Conversely, there should be development of a more updated prediction model that has a lower error. Also, the characteristics of *sukuk* should be incorporated into the predictors for this model so that *sukuk* and bond companies can be properly distinguished. The findings from this chapter are a contribution to regulators, especially with regard to the regulations for issuing debt by publicly held companies. The results suggest that supervision for *sukuk* and bonds should be conducted separately because *sukuk* and bonds have different financial distress predictors.

'The economic and political determinants of depth and strength in *sukuk* markets' by Asutay and Aksak states that the Islamic finance market has achieved remarkable growth and has expanded into global markets. Despite this, the industry only captures a small segment of the global financial market. Because of the current geographic constraints, Islamic finance has access to only the performance of domestic economies and markets. Owing to these limitations, *sukuk* is all the more important for growing the Islamic finance industry. The *sukuk* market is an integral part of the Islamic financial

market. A strong *sukuk* presence is needed in order for the Islamic financial industry to expand into new regions, by offering alternative forms of financing. This chapter analyzes the reason behind the development of the *sukuk* market and its market depth, and investigates additional means of appealing to alternative market participants. Previous literature has looked at emerging markets regarding their depth and degree of development. The connection among conventional debt instruments and *sukuk* is examined. Factors specific to each country are analyzed, which include both economic and political factors, as well as international macroeconomic conditions with regard to liquidity and global risk appetite. The chapter also examines the given determinant through a sample time period and discerns the possible changes through that time period. Findings suggest that product development is needed in order to develop new financial instruments that satisfy the necessities of the international investor. Notably, debt markets are needed to provide alternate forms of financing for the industry as well as enabling the Islamic finance industry to compete on a global scale. In order for *sukuk* to grow beyond just emerging economies, government can support this by providing a regulatory environment and infrastructure that assists in the development of *sukuk* which adheres to Islamic legal and ethical standards as well as global market standards.

NOTE

1. The HDI value ranges from 0.00 up to 1.00. The lower the HDI value of a community or household, the weaker or more lagging development is the household.

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