

Research Proposal
Hedging Market Risk for Islamic banks

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Abstract

Amongst the important distinctions between conventional and Islamic banks is the prohibition of *riba*, *gharar* (excessive uncertainty) and *maysir* (gambling). To a varying degree these prohibitions protected the Islamic banks during the last financial crisis, particularly through the minimal exposure to derivatives. Due to the often speculative features in derivatives contracts, derivatives are normally not Shariah compliant and hence Islamic banks typically do not have significant derivatives exposures in their trading books. On the other hand, it is well known that when used for “hedging purposes”, financial derivatives provide useful risk management benefits and also reduce systemic risk. The authors believe this will embolden Islamic Banks to make increasing use of derivatives strictly for hedging. In doing so, Islamic banks will need to calculate the respective regulatory capital requirements for those financial derivatives to comply with Basel regulations.

In this paper, we will review the Islamic capital market products, specifically the Shariah-compliant derivatives and examine the issues and challenges in the light of new Basel regulations.

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Introduction

The core function of traditional banking is to accept deposits and make loans. However, it has been evidenced that traditional banking business of accepting deposits and making loans has declined significantly in the US (Allen and Santomero, 2001). The evidence continues to prevail in the ratio of the size of the trading book to total loans (i.e. lending business) for top US banks even after the 2007-2008 financial crisis (Figure 1).

While the banking book comprises lending activities, the trading book comprises trading securities, OTC derivatives and market making activities. The key differences between the trading and banking book relate to holding intent, liquidity and mark-to-market valuation. Consequently, regulatory capital requirements for the banking and trading books differ significantly. As trading book positions are daily marked-to-market and actively hedged by the banks, they are not intended to be held for an extended period of time. Hence, the capital charges for such positions are based on the price volatility. However, during the 2007-2008 financial crisis, losses in many banks' trading books have been significantly higher than minimum capital requirements under the market risk rules (BCBS 2009). Across global banks, trading book losses totaled over \$900 billion over 2007-2009 (Haldane 2009). The explanation was straightforward; when markets remain liquid and asset prices rose, banks gained from mark-to-market trading book valuations, but when asset prices fell during a financial crisis, market maker banks lost billion dollar losses on their trading books. This was clearly the case for major US banks (Figure 2).

On the other hand, Islamic banks do not run big trading books because of restrictions on some financial instruments. Amongst the important distinctions between conventional and Islamic banks is the prohibition of *riba*, *gharar* (excessive uncertainty) and *maysir* (gambling). To a varying degree these prohibitions protected the Islamic banks during the last financial crisis, particularly through the minimal exposure to derivatives. Due to the often speculative features in derivatives contracts, derivatives are normally not Shariah compliant and hence Islamic banks typically do not have significant derivatives exposures in their trading books. On the other hand, it is well known that when used for “hedging purposes”, financial derivatives provide useful risk management benefits and also reduce systemic risk. The authors believe this will embolden Islamic Banks to make increasing use of derivatives strictly for hedging. In doing so, Islamic banks will need to calculate the respective regulatory capital requirements for those financial derivatives to comply with Basel regulations.

In this paper, we will review the Islamic capital market products, specifically the Shariah-compliant derivatives and plan to examine the issues and challenges hedging market risk for Islamic banks.

Trading books at Islamic Banks

According to Bankscope's December 2013 data, the aggregate size of all Islamic banks' derivatives is around \$755 million which is less than the \$1 billion threshold for an individual conventional bank to be subjective to the Basel 2.5 Market Risk Rule. The largest derivatives portfolio is held by CIMB Islamic Bank Berhad which is around \$180 million. The second largest derivatives portfolio is held by another Malaysian bank; Maybank Islamic Berhad (\$116 million). While the sum of these two Malaysian banks' trading book comprises almost 40% of all Islamic banks' trading portfolios globally, their the ratios of derivatives portfolios to total assets are not significantly different than a typical Islamic bank (1.19% is the highest for CIMB Islamic Bank Berhad).

This is not surprising as Malaysian Islamic banks have historically offered a more relaxed interpretation of Shariah compliance of derivatives. Among the OTC derivatives, these two banks traded profit rate swaps, foreign exchange swap, forward foreign exchange contracts and options on profit rates and foreign currencies.

Bank Name	Country code	Total Assets th USD Last avail. yr	Total Derivatives	Total Derivatives/Total Assets
Al Rajhi Bank	SA	74,632,191	n.a.	n.a.
Kuwait Finance House	KW	57,233,332	84,043	0.15%
Bank Maskan	IR	54,528,128	n.a.	n.a.
Bank Saderat Iran	IR	50,706,117	n.a.	n.a.
Maybank Islamic Berhad	MY	38,109,616	116,441	0.31%
Dubai Islamic Bank PJSC	AE	30,847,760	8,468	0.03%
Parsian Bank	IR	30,139,400	n.a.	n.a.
Bank Sepah	IR	30,063,042	n.a.	n.a.
Abu Dhabi Islamic Bank PJSC	AE	28,089,993	5,364	0.02%
Bank Pasargad	IR	25,879,951	n.a.	n.a.
Qatar Islamic Bank SAQ	QA	21,251,155	n.a.	n.a.
Albaraka Banking Group B.S.C.	BH	20,967,600	n.a.	n.a.
Masraf Al Rayan (Q.S.C.)	QA	18,282,309	5,357	0.03%
Islamic Development Bank	SA	17,478,741	n.a.	n.a.
Alinma Bank	SA	16,800,321	n.a.	n.a.
CIMB Islamic Bank Berhad	MY	15,061,155	179,920	1.19%
Asya Katilim Bankasi AS-Bank Asya	TR	13,062,269	28,680	0.22%
Bank Islam Malaysia Berhad	MY	13,046,290	13,012	0.10%
Kuwait Turkish Participation Bank Inc	TR	11,985,079	78,498	0.65%
Turkiye Finans Katilim Bankasi AS	TR	11,725,065	40,169	0.34%

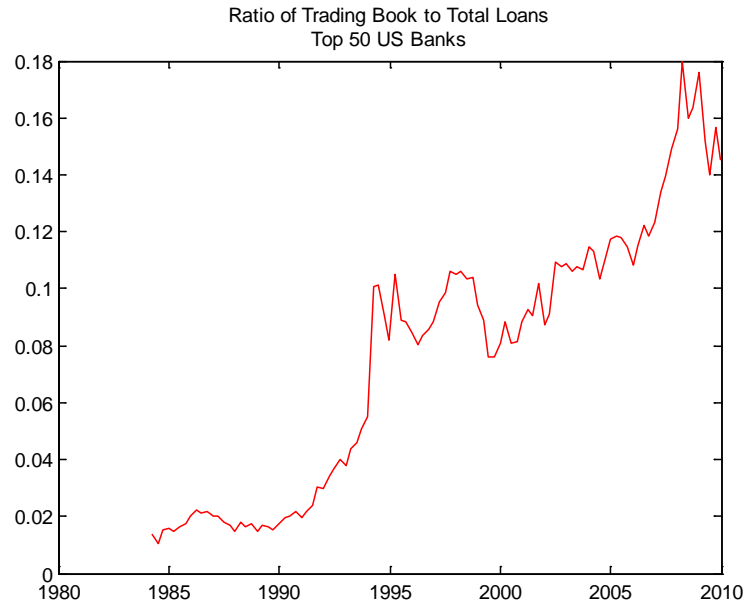
Source: Bankscope

Illustration of exposure simulation for *wa'ad*-based FX products

Bacha and Mirakhor (2013) lists three *wa'ad*-based products available for exchange rate risk management, namely; *wa'ad*-based currency swap, *wa'ad*-based forward and *wa'ad*-based currency option. A *wa'ad* is a unilateral promise by one party to another. A *wa'ad*-based FX forward is similar to a conventional FX forward and is the least debated derivative from a Shariah perspective. Because of this fact and also as we believe that FX forwards are essential risk management tools, we will consider a simple FX forward example to illustrate the process of calculating a contract-level PFE profile for three different currencies pairs, namely MYR/USD, TRL/USD and EUR/USD. The reason for choosing three different FX pairs is to demonstrate the impact of different currency volatilities on exposure estimations.

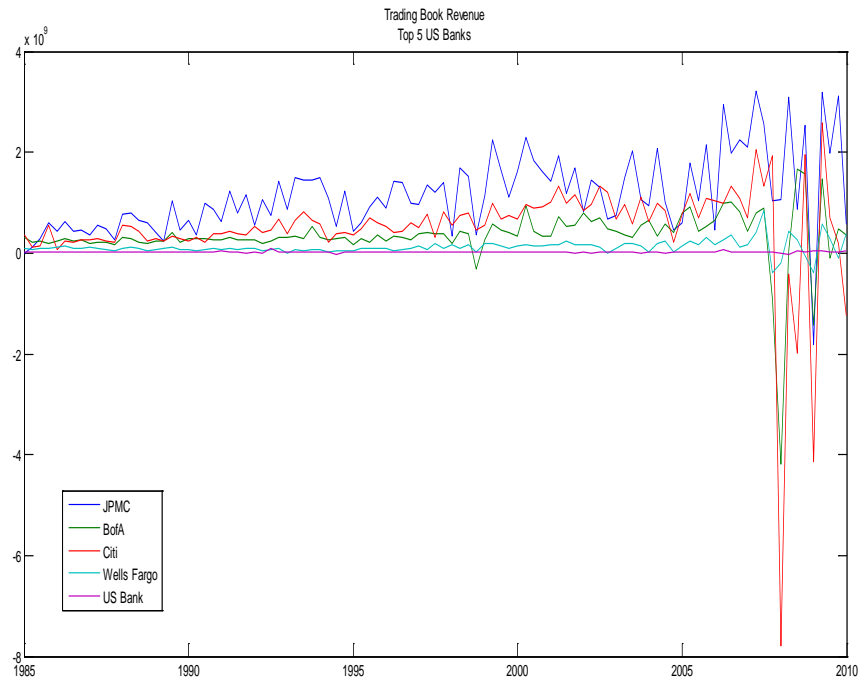
The exposure at default (EAD) for loans is usually a straightforward exposure estimate while that is not the case for OTC derivatives. That is, for OTC derivatives, EAD is a future exposure which is not known with certainty, but depends on the value, at the time of default, of the market factors driving the valuation of the instrument or portfolio under consideration (See Figure 3).

It is imperative for Islamic banks to introduce Shariah compliant derivatives to manage market risks with particular emphasis on the question of substance vs. form. It is well known that when used for “hedging purposes”, financial derivatives provide useful risk management benefits and also reduce systemic risk. The authors believe this will embolden Islamic Banks to make increasing use of derivatives *strictly for hedging*. In doing so, Islamic banks will need to calculate the respective regulatory capital requirements for those financial derivatives to comply with Basel regulations. We plan to examine the issues and challenges hedging market risk for Islamic banks.



Source: U.S. Call Reports

Figure 1



Source: U.S. Call Reports

Figure 2

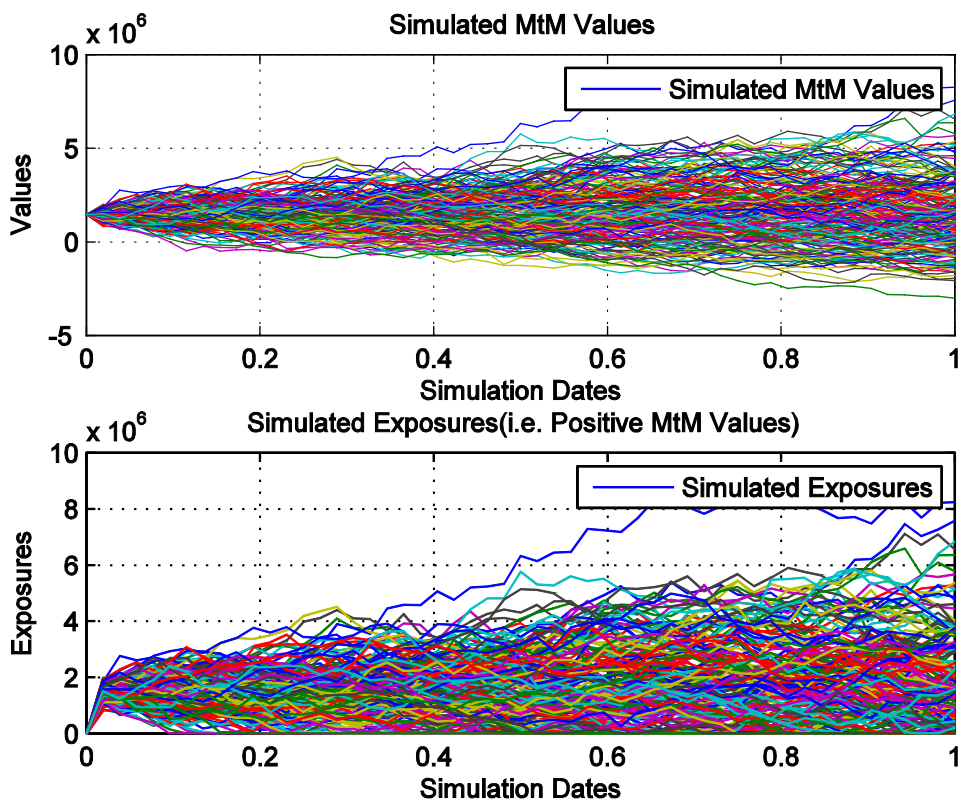


Figure 3

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