How Islamic are Islamic banks? A non-linear assessment of Islamic rate – conventional rate relations

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ABSTRACT

In this paper, we perform a non-linear assessment of Islamic rate – conventional rate relations for the case of Malaysia. Using monthly data covering the period January 1999 to November 2016, we find strong evidence supporting non-linear reactions of the Islamic investment rates to conventional rates in the long run and/or short-run for all matched maturities. More precisely, the Islamic investment rates exhibit faster upward movement (slower downward movement) in responses to conventional deposit rate increases (decreases). The asymmetric pricing behaviour of Islamic banks however tends to weaken as maturity lengthens. Accordingly, we infer that Islamic banks do not rigidly peg their investment deposit rates to conventional deposit rates as some have claimed in questioning the Islamicity of Islamic banks.

1. Introduction

The fast growing Islamic banking sector amidst financial uncertainties has attracted much attention. While few would argue against the Islamic foundations (*Shari'ah*) of Islamic banking as being distinct, some have raised doubts whether in practices Islamic banks are different from conventional banks. Critics of Islamic banking cite the following Islamic banking practices as being indistinguishable from conventional banks (see Chong and Liu, 2009; Khan, 2010; Ariff, 2015). First, despite proclaiming participation or profit-and-loss sharing (PLS) arrangement as the bedrock of the Islamic banking, the partnership-based contracts form only a minor portion of the Islamic banking assets. Second, Islamic banks tend to benchmark against conventional interest rates in the pricing of their products. And finally, the Islamic banking products are mere imitation of the conventional banking products, i.e. the conventional products adapted or modified to be *Shari'ah* compliant.

Among these criticisms, benchmarking against conventional interest rates appears most damaging to the Islamicity of Islamic banks. In their analysis of Islamic banking in Malaysia, Chong and Liu (2009) provide evidence for a unidirectional Granger causality that runs from conventional deposit rates to profit-and-loss sharing based Islamic investment returns for all matched-maturities. Due to competitive pressure from a more established conventional banking sector, the returns from Islamic investment deposits follow those of conventional

deposits. Taking the results to be tantamount to departure from the PLS principle, they conclude that Islamic banks are not interest free. Subsequent analyses by Cevik and Charap (2011); Anuar et al. (2014); and Hamza (2016) further substantiate this conclusion. This finding notwithstanding, the Islamicity of Islamic banks is a non-fading issue and continues to be a topic of intense debate among advocates and doubters of Islamic banking (Ibrahim, 2015).

In this paper, we re-assess the pricing behaviour of Islamic banks by allowing potential asymmetric responses of Islamic investment rates to conventional deposit rates. We appeal to bank concentration/collusion and negative consumer reaction hypotheses to motivate asymmetric pricing behaviour of Islamic banks (Nguyen and Islam, 2010; and Holmes et al., 2015). On one hand, facing changing conventional rates and a given financing rate, Islamic banks may change their investment deposit rates at a slower pace upward and a faster pace downward, as posited by the bank concentration/collusion hypothesis. On the other hand, in anticipation of consumer reaction, they may adopt the reverse pricing strategy, i.e. faster upward changes and slower downward changes in the investments rates.

Two key and related aspects of our contribution are notable. First, we provide a methodological improvement to the analysis of Islamic rate – conventional rate relations. If the interest rate movements are really asymmetric, the framework that imposes symmetry is mis-specified and would likely lead to incorrect inferences. In the present paper, we apply a novel non-linear ARDL framework developed by Shin

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et al. (2014) to evaluate whether Islamic banks change their investment rates asymmetrically in the long run as well as the short run when faced with changes in the conventional deposit rates. And second, by allowing asymmetry, we provide a more refined assessment of Islamic banks' "Islamicity". Our argument is straightforward. Islamic banks are offering similar but Islamic depository services in a market dominated by conventional banks. Accordingly, the market for Islamic deposits would not be completely segmented from the market for conventional deposits. In econometric terms, we may not rule out co-movement or causal relations that run from the conventional rates to Islamic rates. However, the asymmetric pattern, if it exists, would reveal whether Islamic banks take actions for their own advantages (bank concentration hypothesis) or in consideration of the consumers (consumer reaction hypothesis). We argue that the latter would be more consistent with the Islamic economics paradigm that "self is secondary to society", upon which Islamic banking is founded.[1]

To anticipate the results, we find the pricing of Islamic deposits to be non-linearly related to corresponding conventional deposits in the long run as well as the short run. More specifically, we find that the increase in the investment rates is faster than their reduction when faced with the increase and decrease in the conventional rates of the same magnitude. Interestingly, as the maturity lengthens, the non-linear or asymmetric pricing behaviour of Islamic banks tends to fade. The remaining of the paper is structured as follows. In the next section, we present the theoretical and empirical framework. Section 3 presents data and estimation results. Section 4 provides a summary of the findings and concluding remarks.

2. Theoretical and empirical framework

2.1. Theoretical foundations

Price asymmetry is a prevalent phenomenon and it is more than a rule than exception (Peltzman, 2000). The literature has documented asymmetric patterns in a variety of prices. These include among others consumer prices (Ibrahim and Chancharoenchai, 2014; Salisu et al., 2017), stock prices (Bahmani-Oskooee and Saha, 2016; Raza et al., 2016), house prices (Katrakilidis and Trachanas, 2012; Tsai, 2013), oil-related prices (Qin et al., 2016), commodity prices (Reboredo and Ugolini, 2016; Batten et al., 2017), exchange rates (Arghyrou and Pourpourides, 2016) and lending and deposit rates (Nguyen and Islam, 2010; Gambacorta and Iannotti, 2007; Holmes et al., 2015; Apergis and Cooray, 2015).

In the banking literature, potential asymmetric movements in lending and deposit rates under changing interest rate environment stem from such factors as market concentration, market collusion, consumer characteristics, and consumer reaction to rate changes. As elaborated in Nguyen and Islam (2010) and Holmes et al. (2015), the bank concentration/collusion hypothesis posits that banks in a more concentrated market are likely to exploit their monopoly power or to collude to their advantages through faster upward movements in the lending rates and slower upward movements in the deposit rates. By contrast, Since consumers are likely to react negatively to higher lending rates and lower deposit rates and the adverse selection problem tends to be intensified when the interest rates increase, the lending rates are likely to more sticky upward while the deposit rates more sticky downwards.

In the presence analysis, we focus on the pricing of Islamic investment deposits in responses to changes in the conventional

deposit rates. The question is: why might Islamic banks behave asymmetrically? The aforementioned reasons underlying asymmetric interest rate movements may characterize the returns of Islamic investment deposits. On one hand, through "religious branding" or by having a captive client base, Islamic banks are likely to have greater market power as compared to conventional banks (Weill, 2011). Accordingly, they may change the investment rates at a slower pace upward and a faster pace downward. On the other hand, Islamic banks also face a displaced commercial risk, i.e. the risk of deposit with-drawals from Islamic banks in responses to higher conventional rates. If Islamic banks factor in consumer reaction in the pricing of their deposit returns, they likely adjust their investment deposit rates faster upward and slower downward.

In our context, identifying which pricing behaviour characterizes Islamic banks would be important for assessing the Islamicity of the Islamic banks. We view that latter case, i.e. the faster upward adjustment of investment deposit rates, to be more in line with Islamicity since the customers are key to Islamic banks and profits is not only the concern of Islamic banks.

2.2. Empirical framework

In existing studies, the dependence of Islamic rates on conventional rates are normally examined by means of the standard time series econometrics: (i) employing cointegration tests to verify the presence of a long run relation between interest rates, (ii) applying such long-run estimators as the OLS, dynamic OLS or fully-modified OLS estimators to estimate a long run equation, if it exists, and (iii) using variants of vector autoregressions (VAR) to discern short-run dynamic interactions among the variables. The approach, however, assumes symmetric relations among the variables. This is too restrictive. Since banks can behave asymmetrically as posited by the aforementioned bank concentration/collusion hypothesis and the consumer reaction hypothesis, allowing for asymmetry would thus be more appropriate.

Accordingly, in the present analysis, we employ a novel nonlinear ARDL (NARDL) approach recently developed by Shin et al. (2014) as an asymmetric extension to the well-known ARDL model of Pesaran and Shin (1999) and Persaran et al. (2001). Apart from its simplicity, the approach offers flexibility in that it jointly models long-run relation, short-run dynamics and asymmetries and, in doing so, does not require the variables' integration order to be the same (Apergis and Cooray, 2015). More importantly, in our context, the nonlinear ARDL enables evaluation of both the long-run and short-run relations between variables. To begin, we start with the following long-run equation:

$$ir_t = \alpha_0 + \alpha_1 dr_t^+ + \alpha_2 dr_t^- + e_t \tag{1}$$

where ir is an Islamic investment rate, dr is a conventional deposit rate, and $(\alpha_0, \alpha_1, \alpha_2)$ is a vector of long run parameters to be estimated. dr_t^+ and dr_t^- are partial sums of positive and negative changes in dr:

$$dr_t^+ = \sum_{i=1}^{t} \Delta dr_t^+ = \sum_{i=1}^{t} \max(\Delta dr_i, 0) \tag{2}$$

and

$$dr_t^- = \sum_{i=1}^{t} \Delta dr_t^- = \sum_{i=1}^{t} \min(\Delta dr_i, 0) \tag{3}$$

Based on the above formulation, the long run relation between the Islamic investment rate and the conventional interest rate is α_1 and α_2 for respectively the increase and decrease in the latter. We have no a priori expectation whether $\alpha_1 < \alpha_2$ or $\alpha_1 > \alpha_2$. If the former is true, then the Islamic banks tend to change the investment rate to their own advantages, as posited by the bank concentration/collusion hypothesis. However, if the latter is true, then the consumer reaction hypothesis is likely to shape the behaviour of Islamic banks. While we may conclude that the Islamic banks do not strictly follow the conventional banks in

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[1] Islamic economics deals with the allocation of scarce resources for individual and collective achievements of spiritual, moral and material well-beings in ways that conform to the prescriptions of Islamic laws. It places collective/society welfare above personal gains. Islamic bank and finance is a practical application of the Islamic economics visions to ensure equity, encourage participation, and protect ownerships. See inter alia Shinsuke (2012) and Aydin (2013).