



# The Impact of Depository Receipts on Stock Market Development: Evidence from Organization of Islamic Cooperation Stock Markets

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## ABSTRACT

The issue of liquidity and the under development of the Organization of Islamic Cooperation (OIC) stock markets have been a hindrance factor for companies in those countries to seek fund and capital. Due to this reason, many companies choose depository receipts (DRs) to raise capital internationally. Thus, this study aims at examining the financial implications of cross listing via the existing depository receipts (DRs) on stock market development. This study employs a dynamic panel model covers sample of 146 firms from 17 OIC countries that are cross-listed as American depository receipts (ADRs) or Global DRs from 1993 to 2016. The findings reveal that growth and expansion of international cross listings via DRs have a positive impact on domestic stock market. This study provides insights to OIC stock markets that consider accommodating Islamic depository receipts (IDRs) in the future.

**Keywords:** Depository Receipts, Islamic Finance, Organization of Islamic Cooperation Countries, Stock Market Development

**JEL Classifications:** G1, G10, 016

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## 1. INTRODUCTION

Over the last two decades, financial globalization has expanded exponentially with increasing stock exchange activities and cross-border capital flows in developed and emerging markets. These cross-border capital flows have escalated over the years, facilitated by the general reduction in informational barriers, rules and regulation. Most of these advancements are also due to technological advancement in information and telecommunications technology which make transactions instantaneous and cost efficient. Due to the pressures of global competition, capital markets around the world have little choice but to harmonise their policies and regulations in order to appeal

to the global investor base. Stock markets of the Organization of Islamic Cooperation (OIC)<sup>2</sup> countries have not been spared the exposure. Despite this, a study by the SESRIC reveals that many capital markets of the OIC countries remain highly illiquid and segmented, with trading and capitalization concentrated in a few stocks. As a result, of the total 57 OIC countries, only 21 stock

<sup>2</sup> The Organization of Islamic Cooperation (OIC) (formerly Organization of the Islamic Conference) is the second largest intergovernmental organization after the United Nations which has membership of 57 states spread over four continents. The Organization is the collective voice of the Muslim world in ensuring to safeguard and protect the interests of the Muslim world in the spirit of promoting international peace and harmony among various people of the world.

markets fall under the purview of World Development Indicators (SESRIC, 2015). Universally, the key reasons that hinder stock market development are weak legal system and regulations, a limited supply of institutional investors, lethargic support from the private sector, poor governance and lack of transparency and accountability. In addition, companies of OIC countries with less developed capital markets have not participated in the global consolidation waves and are still pursuing a homemade strategy in developing their own stock market (COMCEC, 2018; Hassan and Suk-Yu, 2007).

At stake here is the fate of those companies that wish to enhance their value but are being held down by their domestic stock markets. The logical solution for such company to this problem is to seek international markets more intensively. To a certain extent, in some emerging markets, this internationalization process is the outcome of companies trying to break away from poor domestic environments with poorly functioning markets and weak institutions (Karolyi, 2004; Torre et al., 2005). Claessens et al. (2003) proposes linkages as one of the three survival options. They argue that linkages are a means to establish some form of cross-border linkages with other exchanges to achieve cost savings from many different sources. These sources include economies of scale, sharing system for equity trading, and harmonizing rules and requirements between the exchanges with respect to trading and membership. Thus, over the last decades, there has been an increase in the movement of securities' market activities to major international financial exchanges, such as London and New York. Many large corporations try to expand their investors' base by listing their stock and raising capital in the market that can offer financing with the lowest costs.

The motivation for this study is rooted in the current gaps of existing literature. First, past studies showed that cross-border listing is beneficial to the listing firms (Domowitz et al., 1997; Hargis, 2000; Hargis and Ramanlal, 1998; Karolyi, 1998). The benefits mentioned include improved access to global capital markets, lower transactions costs, better liquidity, increased shareholder base, greater transparency and disclosure and ease of trade. However, there are studies that highlight the adverse evidence on the overall trading activity, especially in emerging markets (Levine and Schmukler, 2006, 2007; Moel, 2001). This study is thus aimed at uncovering the extent to which DRs provide benefits to the OIC countries' stock market. It also aims to investigate whether they hinder or facilitate the domestic stock markets.

The second motivation is from the need to implement the IDR itself. On October 27, 2016, the OIC Member States' Stock Exchanges Forum was held to enhance the capacity and integration of stock markets to promote intra-investment among the OIC countries and propose the development of IDRs as a solution. Moreover, the International Organization of Securities Commissions (IOSCO)<sup>3</sup> highlighted the dire need to speed

up and intensify the Islamic product issuance onto the various international financial exchanges, together with the introduction of Islamic global depository receipts (IDRs) as a potential approach to creating liquidity in the Islamic capital market (IOSCO, 2004). It proposed the general idea that those OIC members with surplus capital (usually oil-rich countries) could help those members who have liquidity shortage. The introduction of Islamic depository receipts (IDRs) as a potential approach of creating liquidity in the Islamic capital market can be seen as a win-win situation for all OIC members. If this study could provide evidence on the positive impact of these DRs on domestic stock markets, then the introduction of IDRs may be well supported. In the current situation some companies have no other option but to go for international capital market situated in the Western World, to seek out cheaper capital for further expansion. Ironically some of these capitals in the Western World are petro dollar money invested by oil rich OIC countries. The noble idea is by having IDR, there is no more reliance on Western exchanges and thus forms more cooperation amongst OIC member states' stock exchanges.

The question is, if Islamic depository receipts (IDRs) are implemented to what extent will it benefit local markets? If IDRs are considered a desired instrument, there is a need to gather empirical evidence from existing depository receipts (DRs) to examine their impact on domestic stock markets. However, the only yardstick to measure its benefits or costs is by conducting some empirical studies on existing DRs consisting of ADRs and GDRs. Any lessons learnt from this study could be brought forward and proposed for the establishment of IDRs. Thus, the objective of this study is to examine from an empirical standpoint the impact of DRs on the OIC stock markets.

The remainder of the paper is organized as follows. Section 2 provides an overview of the related literature. Meanwhile, section 3 discusses the data, modelling and measurements employed in the study. Section 4 reports empirical result and section 5 concludes the paper.

## 2. RELATED LITERATURES

There is no consensus in the literature regarding the impact of DRs on the local stock market (Karolyi, 2006). Many studies provide empirical evidence that suggests firms can attract capital at lower costs and better liquidity, broaden shareholder base, increase public image, improved financing opportunities, and increase liquid securities after venturing into depository receipts (DRs) (Jayaraman et al., 1993; Domowitz et al., 1997; Karolyi, 1998; Hargis and Ramanlal, 1998; Foerster and Karolyi, 1999; Hargis, 2000; Hales and Mollick, 2014). In the early empirical study conducted by Hargis and Ramanlal (1998), they developed a model to investigate the effect of cross-listing on domestic market liquidity and trading volume on four Latin American equity markets which are Argentina, Brazil, Chile and Mexico for the period from 1990 to 1996. Their findings clearly show the positive effect of international cross-listing on domestic market liquidity and volume traded. In later years, Hargis (2000) using the same sample and length of period as in the former research but adopt a different model, offers the same empirical evidence that

3 IOSCO is an association of organizations that regulate the world's securities and futures markets. Members are typically the Securities Commission or the main financial regulator from each country. IOSCO has members from over 100 different countries; regulate more than 90% of the world's securities markets. Retrieved October 2018, from [http://en.wikipedia.org/wiki/International\\_Organization\\_of\\_Securities\\_Commissions](http://en.wikipedia.org/wiki/International_Organization_of_Securities_Commissions).

integration provides many favourable impacts on emerging stock market development. According to him, cross listing increases the underlying share prices since the domestic stock markets can offer the diversification and liquidity roles to the investors.

A subsequent study by Moel (2001) finds rather mixed and inconclusive results. He investigates the effects of DR growth in the development of 28 African and Latin American stock markets. He uses three proxies (market openness, liquidity and the growth in domestic listings), finds that ADRs have an impact on market openness, but negatively influence the other two proxies, liquidity and the growth of local market. In particular, the influential big firms that cross list via ADRs turn out to be unfavourable to the local market development.

In later years there appears to be more support for the view that the diversion of investment may have a deteriorating impact on stock market development. According to Karolyi (2004), to some extent the market for other domestic stocks turn out to be less integrated or segmented from international markets. He stresses that instead of providing greater efficiency and integration of local markets, the expansion of DR programs of a country may be a “hindrance” by diverting investment flows and trading activities away from the local market. Thus, this diversion worsens the quality and even growth of local markets. His study covers twelve emerging markets in Latin America. He discloses that the expansion of DR programs do have positive effects only for those firms subscribing to ADRs, not for the non-ADR firms. Consequently, for non-ADR firms in these emerging countries, the growth and the quality of emerging stock markets are falling.

Claessens et al. (2002) show that when more firms go international, trading volumes in home stock market further decrease, but the cost of financing the fixed overhead of maintaining market oversight, clearing, and settlement systems remains unchanged. In this study, they conclude that it will become even harder for smaller emerging markets to stimulate and produce sufficient activities for local brokers, businesses for local investment banks, accounting firms, and other supporting services. Promoting this trend of internationalization will make it even harder for small stock markets to foster growth. In their view, rather than concentrating in establishing full-fledged stock markets, policy is better off focussing on vital tasks such as increasing shareholder rights, reducing cross border restrictions, improving the legal structure that encourage the internationalization activities for local firms. Karolyi’s findings are further supported by Levine and Schmukler (2006). They reveal that firms that go international will in a way divert some of the activities to international markets. They conclude that rational firms go international not to escape poor domestic environments, but due to the countries’ fundamentals.

All the above studies on stock market development focus on the developed and emerging markets but very few focus on the OIC countries. With the exception of a few countries such as Malaysia, Indonesia and Turkey which are frequently mentioned, the rest of the OIC countries are left out. A key reason could be data availability. It is hoped that this study will fill this gap and contribute to the existing literature about these OIC countries.

### 3. DATA AND ECONOMIC MODELLING

The initial sample includes all the companies in the OIC countries that deal in DRs. The data on these DRs are extracted from DataStream International at the end of 2016. Following this, only 17 OIC countries have been selected as listed in Table 1.

Figure 1 shows the number of companies in the OIC countries listing through depository receipts (DRs) from 1993 to 2016. Whilst Figure 2 shows the composition of the countries that subscribe to DRs, as Turkey is the leader followed by Indonesia.

The two types of data namely, the firm-level and country-level data were collected during the period of 1993 to 2016. As expected, the number of observations varies across sample countries leading to imbalance panel data. The study covers sample of 146 firms from 17 OIC countries that are cross-listed as ADRs or GDRs from 1993 to 2016.

#### 3.1. Measuring Stock Market Development

The objective of this paper is to investigate whether DRs hinder or help home stock market development in 17 OIC countries. Two measures of stock market development are used as proxy which are the stock market capitalization relative to GDP (STGDP) and the number of publicly traded companies, scaled by GDP (LISTGDP).

#### 3.2. Measuring DR Activity

As to measure the DR activity, several indicators are being used. The first variable is the total number of DR listed firms relatively to the total number of listed firms in the respective home market. Then there are share market capitalization and share volume captured by issuing firms and also a Herfindahl-type concentration index. The first three indicators measures the activity of DRs firms in the home market. The later measure, according to Moel (2001), provides an indicator of “crowding out” effect of investor interest and capital by large firms on the development of the rest of the local stock market.

#### 3.3. Model Specification

This study incorporates the dynamic panel data model. The two-step system GMM is applied in this analysis. The dynamic system GMM model is chosen due to its improvement over the Fixed Effects, Random Effects, and Difference GMM Model and perceived as more powerful than other models.

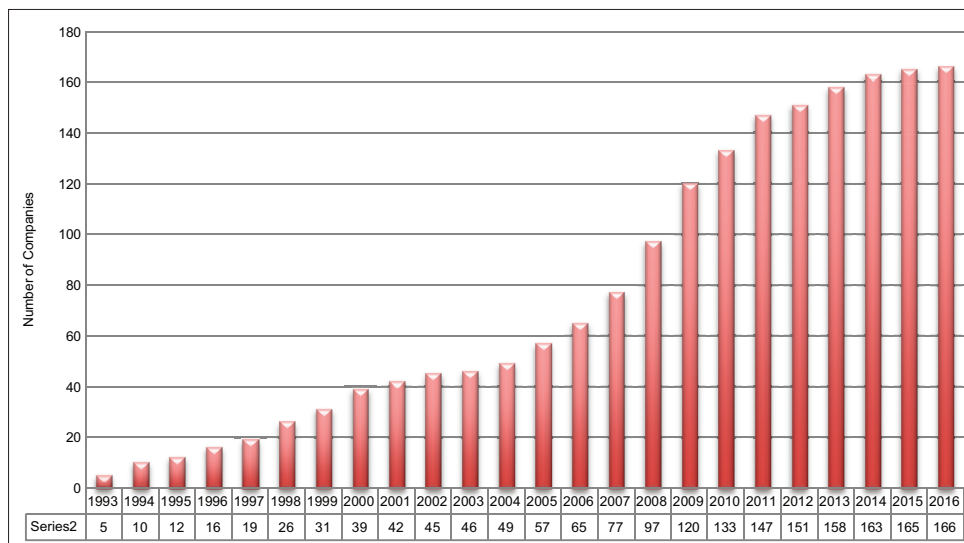
The dynamic panel model includes lagged stock-market development as an explanatory variable.

$$SMD_{it} = \mu_i + \lambda SMD_{i(t-1)} + \beta DR_{it} + \theta X_{it} + \eta_i + \varepsilon_{it} \quad (1)$$

**Table 1: List of countries**

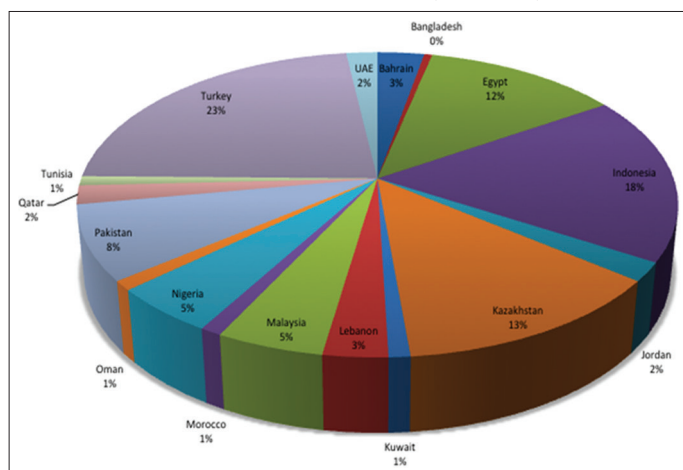
Bahrain	Kuwait	Pakistan
Bangladesh	Lebanon	Qatar
Egypt	Malaysia	Tunisia
Indonesia	Morocco	Turkey
Jordan	Nigeria	UAE
Kazakhstan	Oman	

**Figure 1:** Number of companies that subscribed to depository receipts (Organization of Islamic Cooperation countries)



Source: Datastream

**Figure 2:** Composition of Organization of Islamic Cooperation countries subscribed to DRs (as of 2016)



Where *i* designates country and *t* represents number of periods *t* = 1,2,...,n years

SMD is stock market development;

DR<sub>it</sub> represents the set of explanatory variables on DR activities;

X<sub>it</sub> is control variable;

η is an unobserved country-specific effect;

ε is the error term.

All these variables can be expanded and illustrated as in equation 1.1. In the equation 1.1, the control variable KAOPEN<sup>4</sup> is used to measure the degree of financial openness of a country. Many attempts have been made to construct proxies for the degree of financial openness. Chinn and Ito

4 KAOPEN is based on the four binary dummy variables reported in the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). There are the variables indicating the presence of multiple exchange rates, restrictions on current and capital account transactions, and the requirement of the surrender of export proceeds. Index is the first standardized principal component of these variables. The updated dataset is available at [http://web.pdx.edu/~ito/Chinn-Ito\\_website.htm](http://web.pdx.edu/~ito/Chinn-Ito_website.htm)

(2008) provide an index, which they call KAOPEN, based on the IMF's AREAER tabulation with the goal of incorporating the extent and intensity of capital controls (SESRIC, 2015). This index takes on higher values on the openness of the country to cross-border capital transactions.

$$SMD_{it} = \mu_i + \lambda SMD_{i(t-1)} + \beta_{1i} DRLISTED_{it} + \beta_{2i} DRMCAP_{it} + \beta_{3i} VOLUME_{it} + \beta_{4i} CONCEN_{it} + \theta_{it} KAOPEN_{it} + \varepsilon_{it} \quad (1.1)$$

SMD is represented by STGDP total market capitalization of all listed shares divided GDP (%) and LISTGDP total number of all listed shares divided GDP (%).

DRLISTED is total number of DRs divided by total number of listed companies;

DRMACAP is total market capitalization of all DR-linked companies divided by total market capitalization in US million;

VOLUME is the total trading volume of all DR-linked companies divided by total market capitalization in US million and;

CONCEN is concentration index of DR-linked companies over total market capitalization.

KAOPEN is a proxy for financial openness of a country.

Since the data are in panel form, panel estimation techniques is used to estimate equation 1. As mentioned earlier, the standard panel models such as fixed effect and random-effect panel model were not suitable due to the presence of the country-specific effects and the lagged dependent variable or potential endogeneity of explanatory variables. Thus, our analysis is based on dynamic system GMM model as this model is an improvement over the Fixed Effects, Random Effects, and Difference GMM Model and perceived as more powerful than other models.

Table 2: Summary statistics for proxies of DR activity

Country	Bahrain	Bangla	Egypt	Indon	Jordan	Kazakh	Kuwait	Lebanon	Malaysia	Morocco	Nigeria	Oman	Pakis	Qatar	Tunisia	Turkey	UAE
	Total number of DRs divided by total number of listed companies per country (%) (DRLISTED)																
Mean	1.691	0.105	1.845	1.345	1.362	8.746	0.109	31.573	0.776	2.718	1.209	0.423	0.975	4.504	2.918	7.740	0.479
Median	0.000	0.000	0.867	1.342	1.499	7.307	0.000	41.667	0.786	3.604	0.995	0.000	0.816	6.004	4.124	8.321	0.000
Std. Dev.	3.407	0.174	2.301	1.100	0.956	9.778	0.316	20.692	0.133	1.568	1.464	0.740	0.604	3.882	2.141	5.178	1.039
	Total market capitalization of all DR-linked companies divided by total market capitalization per country in US million (%) (DRMACAP)																
Mean	2.905	0.538	12.124	17.261	11.109	11.791	0.224	27.377	8.794	1.821	4.857	4.535	27.554	7.597	3.892	28.174	2.207
Median	0.000	0.000	4.712	15.668	13.267	5.372	0.000	31.337	8.539	2.183	1.901	0.000	25.739	2.863	5.597	31.708	0.000
Std. Dev.	6.117	0.989	14.848	13.781	8.149	18.452	0.837	19.396	5.459	1.047	9.529	8.438	17.840	9.866	3.700	21.206	4.508
	Total trading volume of all DR-linked companies divided by total market capitalization per country in US million (%) (VOL)																
Mean	0.002	0.177	0.547	12.251	0.013	0.002	0.014	0.042	0.334	0.000	2.106	0.054	10.618	0.003	0.004	7.064	0.017
Median	0.000	0.093	0.415	13.016	0.020	0.002	0.000	0.047	0.321	0.000	0.580	0.000	6.363	0.000	0.004	5.913	0.000
Std. Dev.	0.004	0.261	0.669	8.259	0.009	0.001	0.023	0.026	0.150	0.000	2.405	0.083	10.109	0.005	0.003	4.923	0.027
	Concentration index (CONCEN)																
Mean	0.004	0.000	0.014	0.014	0.009	0.031	0.000	0.043	0.003	0.000	0.005	0.017	0.076	0.013	0.003	0.014	0.004
Median	0.000	0.000	0.003	0.012	0.000	0.000	0.000	0.000	0.001	0.000	0.000	0.000	0.021	0.000	0.000	0.004	0.000
Std. Dev.	0.008	0.000	0.021	0.012	0.014	0.054	0.000	0.057	0.003	0.000	0.010	0.033	0.081	0.021	0.004	0.022	0.008
	KAOPEN index per country (KAOPEN)																
Mean	2.308	-1.148	1.931	1.288	2.118	-1.148	1.338	1.358	0.181	-1.148	-0.700	1.952	-1.198	2.478	-1.148	-0.970	2.478
Median	2.478	-1.148	2.345	1.148	2.478	-1.148	1.148	1.148	-0.097	-1.148	-0.514	1.952	-1.148	2.478	-1.148	-1.148	2.478
Std. Dev.	0.285	0.000	0.661	0.350	0.678	0.000	0.353	0.580	0.446	0.000	0.441	0.545	0.186	0.000	0.000	0.452	0.000



**Table 4: Fixed, random effect and dynamic model (LISTGDP)**

LISTGDP	Panel		Dynamic panel		Dynamic panel	
	Fixed effect	Random effect	Difference GMM		System GMM	
			One-step	Two-step	One-step	Two-step
LISTGDP <sub>it-1</sub>			0.956** (0.000)	0.952 (0.000)	0.956** (0.000)	0.970** (0.000)
DRLISTED <sub>it</sub>	-0.010 (0.002)	-0.012 (0.000)	0.004 (0.133)	0.004* (0.032)	0.003 (0.133)	0.003** (0.034)
DRMACAP <sub>it</sub>	-0.001 (0.982)	0.001 (0.649)	-0.008** (0.007)	-0.001** (0.004)	-0.008** (0.007)	-0.002** (0.000)
VOLUME <sub>it</sub>	0.001 (0.836)	0.001 (0.145)	0.001 (0.233)	0.049* (0.060)	0.001* (0.014)	0.051* (0.005)
CONCEN <sub>it</sub>	0.001 (0.000)	0.001 (0.686)	0.889* (0.054)	0.658* (0.060)	0.990** (0.000)	0.749** (0.000)
KAOPEN <sub>it</sub>	-0.001 (0.001)	-0.004 (0.004)	0.005 (0.691)	0.001* (0.078)	0.006 (0.550)	0.000 (0.997)
Hausman test	25.120 (0.000)					
Sargan test			175.54 (0.004)	9.367 (1.000)	220.65 (0.0001)	9.08 (1.000)
AR(1)				(0.0563)		(0.0266)
AR(2)				(0.2121)		(0.1506)
N	17	17	17	17	17	17
T	25	25	25	25	25	25

Figures in parentheses are P-value. \* and \*\* indicate the respective 10% and 5% significance levels. The dependent variable is represented by LISTGDP total number of all listed shares divided GDP (%). The independent variables are DRLISTED is total number of DRs divided by total number of listed companies; DRMACAP is total market capitalization of all DR-linked companies divided by total market capitalization in US million; VOLUME is the total trading volume of all DR-linked companies divided by total market capitalization in US million and CONCEN is concentration index of DR-linked companies over total market capitalization

**Table 5: Fixed, random effect and dynamic model (STGDP)**

STGDP	Panel		Dynamic panel		Dynamic panel	
	Fixed effect	Random effect	Difference GMM		System GMM	
			One-step	Two-step	One-step	Two-step
STGDP <sub>it-1</sub>			0.545** (0.000)	0.539** (0.000)	0.735** (0.000)	0.730** (0.000)
DRLISTED <sub>it</sub>	1.322 (0.002)	1.147* (0.005)	1.134 (0.023)	1.976 (0.608)	1.672** (0.001)	2.03** (0.001)
DRMACAP <sub>it</sub>	-0.318 (0.012)	-0.296 (0.018)	-0.514 (0.000)	-0.519** (0.009)	-0.417** (0.000)	-0.427** (0.000)
VOLUME <sub>it</sub>	-0.001 (0.785)	-0.001 (0.719)	0.006 (0.170)	0.006 (0.140)	0.003 (0.486)	0.004 (0.280)
CONCEN <sub>it</sub>	-0.001 (0.576)	-0.001 (0.572)	-0.001 (0.595)	-0.001 (0.713)	-0.004 (0.814)	-0.001 (0.324)
KAOPEN <sub>it</sub>	0.088 (0.000)	0.089 (0.000)	0.033 (0.189)	0.024 (0.345)	0.092** (0.000)	0.096** (0.000)
Hausman Test	5.57 (0.350)					
Sargan test			164.613 (0.0187)	11.348 (1.000)	227.05 (0.000)	12.32 (1.000)
AR(1)				(0.0461)		(0.0363)
AR(2)				(0.528)		(0.5545)
N	17	17	17	17	17	17
T	25	25	25	25	25	25

Figures in parentheses are P-value. \* and \*\* indicate the respective 10% and 5% significance levels. The dependent variable is represented by STGDP total market capitalization of all listed shares divided GDP (%). The independent variables are DRLISTED is total number of DRs divided by total number of listed companies; DRMACAP is total market capitalization of all DR-linked companies divided by total market capitalization in US million; VOLUME is the total trading volume of all DR-linked companies divided by total market capitalization in US million and CONCEN is concentration index of DR-linked companies over total market capitalization

Meanwhile CONCEN on the other hand, showed mixed results. CONCEN had a positive impact on LISTGDP, but negative influence on STGDP. Meanwhile, the 1-year lagged effect on all stock market development measures had a statistically positive influence on all the dependent variables. The control variable KAOPEN was statistically significant and positive for only STGDP, but had no impact at all on LISTGDP.

Overall, the results suggested a positive impact of depository receipts (DRs) activity on domestic stock market development. Three independent variables indicated a positive relationship with stock market development and thus confirm the efficacy of this instrument in fostering the local stock markets. Obviously, firms were able to attract funds at lower costs and better terms more easily, and had tapped into wider investor bases. The investors were able to acquire and sell shares at more liquid exchanges.

Our results are consistent with previous studies that claim cross listing provides positive effects on the domestic stock markets

(Hargis, 2000; Domowitz et al., 1998; Foerster and Karolyi, 1999). The positive effects on stock market development could be in various forms such as broadening shareholder base and improving transparency and corporate governance of the home market. Their findings show that firms that cross list in larger and more transparent markets but come from smaller and less liquid markets with greater foreign ownership restrictions will show greater improvement in their domestic market development.

Nonetheless, the evidence also points to an adverse impact of DRs on measures of stock market development, as pointed out by the relationship of variables CONCEN and DRMACAP. This result is parallel with the findings by Moel (2001) and Karolyi (2004). They argue that ADRs appear to be influential in decreasing the stock market liquidity and limiting the economic growth of the local market. In particular, the effect of large firms listing ADRs is found to be detrimental to the development of the local market.

Furthermore, according to Claessens et al. (2007) the process of developing a local stock exchange also increases the domestic firms' access to international exchanges. In their view, while better fundamentals lead to an increase in domestic activity, more and more of these activities will occur abroad as better fundamentals spur the degree of migration in capital raising, listing, and trading to exchanges abroad. As a result, migration makes it more difficult for countries to sustain a fully-fledged local stock exchange. They further add that, as trading volumes further decrease, financing the fixed overhead of maintaining market oversight, clearing, and settlement systems, and generating enough order flow for local brokers and enough business for local investment banks, accounting firms, and other supporting services will become even harder, especially for smaller emerging markets. The trend towards increased migration will thus make it more difficult for small exchanges to survive which in this case applies to most of OIC countries stock market (Lee and Valero, 2010).

## 5. CONCLUSION

We find that the cross listing via DRs does have a positive impact on the stock market's development of OIC countries. Our findings reveal that growth and expansion of international cross listings via DRs of companies from these OIC market have a positive impact on domestic stock market development. There are many limitations and weaknesses of the OIC stock markets such as weak legal system and regulations, a limited supply of institutional investors, less support from the private sector, lack of transparency and accountability. Thus, these factors inevitably imply higher cost of capital to the growing companies in these markets and lead to reduced competitiveness. These barriers have an impact on how the pricing of stocks in their local markets. Naturally, for firms in markets with greater investment barriers, the impediment will translate to lower price and higher cost of capital. The way to mitigate any negative effects arising from DRs is to adopt policies that promote the positive effects of international diversification. Depository receipts (DRs) could be one of the means to increase competitiveness of domestic firms internationally. Additionally, for international investors, investing in shares via DRs could provide a platform for diversifying their portfolio. As mentioned earlier, OIC countries are in dire need to come up with mechanism for enhancing cooperation and intra-investment among them.

Based on our results, the introduction of Islamic depository receipts (IDRs) would be one of the best alternative instruments to address the issue. For example organizations like Islamic Development Bank and SESRIC have identified the need to have IDRs as one of the means in harnessing capital and addressing capital inadequacy problems faced by the companies listed in OIC country stock exchanges. The recommendation is that OIC countries with surplus capital can invest in IDRs of companies from countries with inadequate capital. As these are companies currently issuing DRs and so have met the needed quality threshold, there is no additional risk. Instead, investors from capital rich OIC countries get the benefits of diversification. Current investors from rich OIC countries invest in Western

financial institutions that then recycle these as "loans" or investments to poorer OIC countries. This not only lucrative but gives extensive power to the Western intermediates. The proposed IDR would disintermediate the middlemen role of Western institutions or markets and channel the funds directly to their poorer brethren.

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## REFERENCES

- Claessens, S., Klingebiel, D., Schmukler, S. (2002), Explaining the Migration of Stocks from Exchanges in Emerging Economies to International Centers, Working Paper. Washington DC: World Bank.
- Claessens, S., Lee, R., Zechner, J. (2003), The future of stock exchanges in European Union Accession Countries. London: Corporation of London. p1-35.
- Claessens, S., Schmukler, S.L. (2007), International financial integration through equity markets: Which firms from which countries go global? *Journal of International Money and Finance*, 26(5), 788-813.
- COMCEC. (2018), Financial Outlook 2018. Available from: <http://www.comcec.org/en/wp-content/uploads/2018/11/2018-FIN-OUT.pdf>.
- Doidge, C. (2004), Cross-listings and the private benefits of control: Evidence from dual-class firms. *Journal of Financial Economics*, 72, 519-553.
- Domowitz, I., Glen, J., Madhavan, A. (1997), Market segmentation and stock prices: Evidence from an emerging market. *Journal of Finance*, 52, 1059-1085.
- Domowitz, I., Glen, J., Madhavan, A. (1998), International cross-listing and order flow migration: Evidence from an emerging market. *The Journal of Finance*, 53(6), 2001-2027.
- Foerster, S.R., Karolyi, G.A. (1999), The effects of market segmentation and investor recognition on asset prices: Evidence from foreign stocks listing in the United States. *The Journal of Finance*, 54(3), 981-1013.
- Hales, A.D., Mollick, A.V. (2014), The impact of ADR activity on stock market liquidity: Evidence from Latin America. *The Quarterly Review of Economics and Finance*, 54(3), 417-427.
- Hargis, K. (2000), International cross-listing and stock market development in emerging economies. *International Review of Economics and Finance*, 9, 101-122.
- Hargis, K., Ramanlal, P. (1998), When does internationalization enhance the development of domestic stock markets? *Journal of Financial Intermediation*, 7(3), 263-292.
- Hassan, M.K., Suk-Yu, J. (2007), Stock Exchange Alliances in Organization of Islamic Conferences (OIC) Countries. Terre Haute, Indiana: Indiana State University. p30.
- IOSCO. (2004), Islamic Capital Market Fact Finding Report. Madrid, Spain: International Organization of Securities Commissions.
- Jayaraman, N., Shastri, K., Tandon, K. (1993), The impact of international cross listings on risk and return: The evidence from American depository receipts. *Journal of Banking and Finance*, 17, 91-103.
- Karolyi, G.A. (1998), Why do companies list shares abroad? A survey of the evidence and its managerial implications. *Financial Markets, Institutions and Instruments*, 7, 1-60.
- Karolyi, G.A. (2004), The role of ADRs in the development and integration of emerging equity markets. *Review of Economics and Statistics*, 86(3), 670-690.



- Karolyi, G.A. (2006), The world of cross-listings and cross-listings of the world: Challenging conventional wisdom. *Review of Finance*, 10, 99-152.
- Lee, H.W., Valero, M. (2010), Cross-listing effect on information environment of foreign firms: ADR type and country characteristics. *Journal of Multinational Financial Management*, 20, 178-196.
- Levine, R., Schmukler, S.L. (2006), Internationalization and stock market liquidity. *Review of Finance*, 10(1), 153-187.
- Levine, R., Schmukler, S.L. (2007), Migration, spillovers, and trade diversion: The impact of internationalization on domestic stock market activity. *Journal of Banking and Finance*, 31, 1595-1612.
- Moel, A. (2001), The role of American depository receipts in the development of emerging markets. *Economia*, 2(1), 209-257.
- Reese, W., Weisbach, M. (2002), Protection of minority shareholder interests, cross listings in the United States, and subsequent equity offerings. *Journal of Financial Economics*, 66, 65-104.
- SESRIC. (2015), OIC Economic Outlook 2015. Promoting Investment for Development. Available from: <http://www.sesric.org/files/article/517.pdf>.
- Torre, A.D., Valdez, J.C.G., Schmukler, S.L. (2005), *Stock Market Development under Globalization: Whither the Gains from Reforms?* Washington, DC: World Bank. p42.