

## Halal Development and Food Exports: Evidence from Malaysia and MEACs

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### ABSTRACT

Economic growth in Malaysia keeps on showing impressive figures lately. This phenomenon mostly attributable to remarkable performance of Malaysian exports sector. Combined with extensives development in Halal-related areas, especially in food productions, Malaysia should be able to further intensify its exports, particularly to Islamic countries such as Middle Eastern Asian Countries (MEACs). Whether or not Halal development contributing to the export expansion is yet to be researched. Therefore, this study attempts to investigate the role potentially played by Halal development in Malaysia on its exports. Considering this is among the first studies in Halal areas attempting to examine its implication on exports, this study limits the scope to cover the exports of Malaysia into MEACs only.

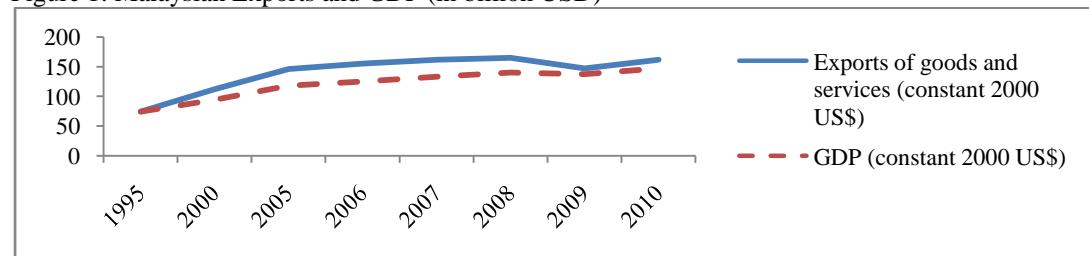
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### INTRODUCTION

Trade, particularly export benefited a county economic development from various side. The trade play important role in growth enhancing in many countries (Ghani, 2007). Besides, the idea of trade enhanced the economic growth also supported by Edwards (1992), Harrison (1996), Edwards (1998), Frankel and Romer (1999) and Noguer and Siscart (2005). Like other develops countries, Malaysia also plays a vital role in trade, export and import. Export particularly, in Malaysia keeps on growing and contribute a significant value to the Malaysian GDP as shown in Figure 1. Among the sectors contributed a lot are textiles, electrical, electronic goods, rubber products and few others.

The top five Malaysia's trade partners are United State, Singapore, Japan, China and Thailand. The trade relationships between these countries were continually until now. Malaysia shares healthy trade relations with a number of countries especially the United States. Trade between these countries assembled electrical goods and manufactured electronic products. Malaysia's openness to trade has led to rapid economic growth thus subsequently contributed to the decline in poverty and income inequality.

Figure 1: Malaysian Exports and GDP (in billion USD)



Source: World Development Indicators (World Bank, 2012).

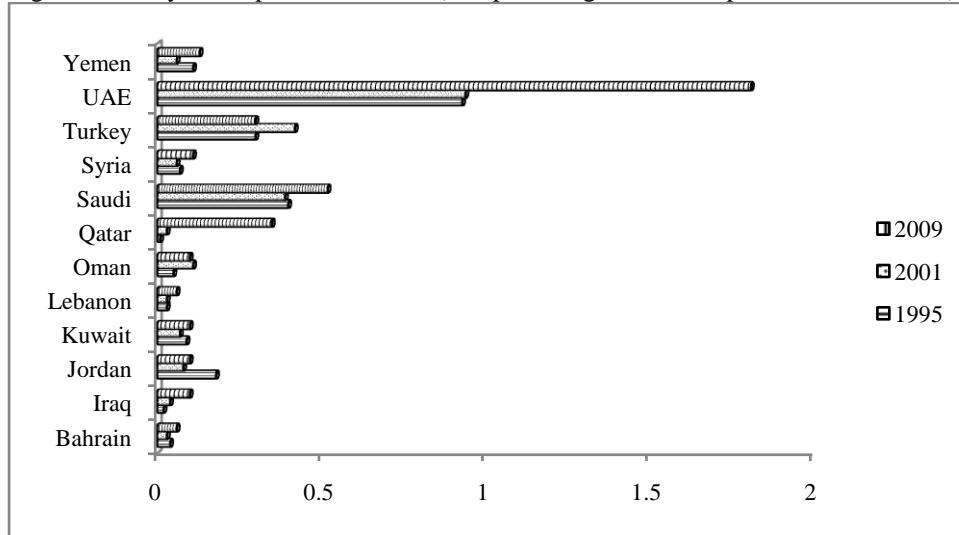
As highlighted, export sectors contribute a significant value to Malaysian GDP. As presented in Figures 1, export could be the mirror image of GDP. In Malaysia scenario, as the GDP increase, the export also shows a positive performance. Besides, there is also in certain period where GDP and export shows a slow movement or downward trending. For example, the economic slowdown for both

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GDP and export is in 2009 due to the crisis that struck the West. On the other hand, it also is due to the influence of a natural disaster that took place in Japan, which is also among the top three Malaysian export locations.

Hence, in order to minimize the risk of being heavy dependence on a few countries, Malaysia badly in needs to diversify its export destinations. Part of the strategies is for Malaysia to target the market of Middle Eastern Asian Countries (MEACs) as these countries promise a huge market for imports from Malaysia. Combined with aggressive development of Halal in Malaysia, MEACs could be a prospective location for Malaysian halal products. MEACs could offer a lucrative location for Malaysian exports for at least two reasons: (i) this region is dominated with Muslims, and (ii) they are relatively politically more stable and economically richer than the other Islamic countries across the globe, such as African countries and ex-Russian countries. Nonetheless, surprisingly, although the Malaysian and MEACs generally share a similar religious belief, which is Islam, the volume of trade between Malaysia and MEACs is not that impressive compared to West countries. Malaysia's exports to MEACs as a percentage of total Malaysian exports presented as in Table 1.

Figure 1: Malaysian exports to MEACs (as a percentage of total imports of each MEAC)



Sources: Own calculation based on data taken from UNCTAD (2011).

Figure 1 does not demonstrate impressive ties between Malaysian and each MEAC, as the percentage of trading between Malaysia and each MEAC is remained too low. UAE seems to be exceptional but with the percentage of less than 2 percent, the volume is also still too small. Generally, Malaysia's export to other MEACs can be described as negligible, particularly with Iraq, Kuwait, and Lebanon. Therefore, the intention of this study is to examine the MEACs as a new focus for Malaysian exports, particularly whether or not the recent extensive progression of Halal development can promote further Malaysian exports. As for this study, we focus on the role of Halal development on the Malaysian food exports as food is the one that requires strict Halal rule.

The organization of this study is as follows: the next section devotes on the brief economic background regarding halal development in various aspects in Malaysia, followed by literature review, methodology, result and discussion, and a brief conclusion is presenting in the last section.

## BRIEF ABOUT HALAL DEVELOPMENT IN MALAYSIA

As the Muslim country, Malaysia should know the absolute concepts on 'Halal', as the Halal industry shows a significant potential either in domestic or international market (Yuhanis & Chok, 2012). Currently, Halal industry has been becoming one of the fastest growing global businesses across the world. Halal industry (particularly food) pegged to grow at a rate of 29 percent annually (Al-Harran & Cheng Low, 2010).

In line with this development, Malaysian government is focusing on increasing Halal products in making Malaysia as an international Halal hub. The Halal especially the food processing companies can depend on Malaysia's strength in Halal certification as Malaysia was the pioneer in establishing Halal laws in the early 1980s and remains a force in matters relating to Halal certification globally. In addition, Malaysia will be positioning as the knowledge centre for trade and investment promotion of

Halal products and services by designating Malaysia International Halal Showcase (MIHAS) and the World Halal Forum (WHF) as the international avenue for Halal trade (MANTRADE, 2011). Apart from foods, global demand for Halal products and services also include non-food products such as personal care products, cosmetics, pharmaceuticals as well as services covering restaurants and hotels, banking and financing, tourism and logistics.

Tapping into this vast opportunity, Malaysia needs several of Halal institutions or government agencies in order to capture the goals in becoming the global Halal Hub. Malaysia has a few institutions or government agencies together with non government organization, NGOs (Muslim Consumer Group (MSG) and Halal center in several public universities) established in order to focus on Halal standard development, Halal training, Halal research and development (R&D), Halal innovation, Halal logistics, Halal port services and Islamic financial services, Halal production and manufacturing of Halal product and services. The establishment Halal Development Corporation (HDC), to work closely with Department of Islamic Development Malaysia (JAKIM), has further boosted the progression of Halal development in Malaysia.

JAKIM is particularly vital as it holds a sole responsibility in issuing Halal certification. Besides, HDC is providing the necessary infrastructure to facilitate investments in the Malaysian Halal industry (HDC, 2012). The establishment of Halal parks by HDC is among the measures introduced to facilitate the growth of the industry. The establishment of Halal parks is a key step towards improving the downstream production of Halal products and to provide manufacturers, both local and foreign, with the means to establish and maintain internationally accepted manufacturing process standards that incorporate both the scientific and religious requirements of ensuring Halal integrity. At this stage, HDC established nine Halal parks; nine are under development and two in planned to be built in near future. For the time being, there are 28 companies operating in these Halal parks and expected to further increase in the future.

In addition, there are various supporting services established by government in order to ensure the smooth running of Halal industry, ranging from the processing procedure to promotion and transportsations. Besides the government initiatives, there is also supporting provide by Non-Government Organization (NGOs) such as Muslim Consumer Groups (MSG), either at national or state level, and Halal center in several universities in Malaysia. The Halal industry should cover all aspects on producing Halal products (particularly Halal food) such as transporting, packaging, labeling and logistics of the products (Arshia & Muhammad Butt, 2011).

There are ongoing efforts in creating Malaysia as the center of Halal hub. Addressing this integrative approach and the continuous effort done by various Halal agencies and institutions, it was contribute to a positive demand movement on Halal products from 2005 (RM 50 million) to 2010 (RM 260 million) (HDC, 2011).

## LITERATURE REVIEW

Malaysia will become a global hub in Halal know-how, focusing on R&D and best practices in products, processes, standards and certification. Besides, to create greater economic impact, Malaysia will focus on accelerating growth in number consumer goods industries that are relevant to Halal value proposition such as specialty in processed food. In order to achieve sustainable economic impact, Malaysia needs to develop key industries that will enable it to become a leading producer of identified Halal products. Besides, in order to generate international confidence and distinction of the products produced in Malaysia, it is important that Malaysia practices absolute Halal integrity based on a complete but pragmatic ‘Halalness’ that is adhered to at each level of the production value chain. At the same time, Malaysia must be seen to uphold the true fundamentals of Halal, a value that has a clear benefits to the consumers (be they Muslim or not) in that it promotes good health, hygiene, and nutritious standard. This standard must be strictly enforced and monitored that is should enable an acceptance without doubt of Malaysian products and services.

Malaysia is gaining recognition as a force to be reckoned with in the development of Halal both in term of knowledge and industry. The establishment and continued promotion of Halal undertaken by Malaysia via various international events such as Malaysian international Halal showcase (MIHAS), represents the commitment of Malaysian government to lead in the development of Halal related industry. More importantly, the setting up of Department of Islamic development Malaysia (JAKIM) and Halal Development Corporation (HDC) formalize this commitment and has put Malaysia in a lead to promote Halal globally.

However, it cannot be confidently ascertained that Malaysian products (food) are currently accepted without doubts by Muslim globally due to a few issues, such as issue related to halal

certificate by Jakim. While Malaysian claim that our certification sought by many, domestic and international data point that very few companies, even locally, come forward to apply for certification every year. Less than 1,000 companies do so each year and even then around 15-40 percent of applications failed or rejected each year (HDC, 2011). This issue should be addressed so that it would not be the major obstacle on exporting Halal products in abroad.

### Gravity Model

Gravity theory was found by Newton on 17<sup>th</sup> century, by stating that masses have negatively impact on the distance (Filifini & Molini, 2003). To add up the idea on this theory Baldwin & Taglioni (2006) suggested a few physics laws that confirmed the theory proposed by the Newton. Basically, this study employed a gravity model in order to evaluate the relationship between two trading partners that are located far away, in this case Malaysia and each MEAC countries. As the previous studies found that, the distance is having negatively impact on export (Obashi, 2010). The longer the distance between trade partners, the higher costs (transportation costs) will result and indirectly lowering the profit margin.

Empirically, the gravity model was found very strong in position (Obashi, 2010). Gravity models have strong power in explaining trade pattern and testing hypotheses as the aim of the empirical part of using gravity models is to test the hypothesis that the bilateral trade flows of the Malaysia and candidate countries (Middle Eastern Asian countries). Whereas, based on theoretical grounding it was not very strong justification given by the scholars as stated by Deardorff (1984) and Frankel, Stein, and Wei (1994). Therefore, later on, there are a few researchers aware on this scenario, thus making an integrative step on suggesting reliable theory on the gravity model. Among the earlier pioneer in gravity theoretical grounding were Tinbergen (1962), Linnemann (1966), Anderson (1979), Bergstrand (1985, 1989 and 1990), Deardorff (1984, 1995 and 1998) and Evenett and Keller (1998). Recently noted, Anderson and Wincoop (2001), Harrigan (2001), Van Wincoop (2003) and Helpman (2006). Despite of continuing discussions these theoretical considerations, which are mostly based on microeconomic foundations and trade theories, are also valid when exploring the changes in international trade patterns. Gravity theory has proven useful in describe social phenomena such as population migration, flow of goods, money, information et cetera.

In this study, researcher positioned Halal development in the model as this model has their strong foothold handling a dummy representing two trade partners' special characteristics. For example similarity or commonality issues such as language, border and landlocked mentioned by Anderson and van Wiincoop (2003) and Melitz (2007). Second is event such as natural disaster, political changes and others (Papazoglou, Pentecost, and Marques, 2006). Economic policy and regional factor will be third and forth issues. Under this concept, researcher proposed Halal to allocate in the model.

### METHODOLOGY

In this study, we investigate the implication of Halal development on Malaysian food exports to MEACs. As we employ bilateral trade model, gravity model is utilized to gauge the relationship. The basic gravity model essentially demonstrates that bilateral trade (BT) is a function of market size (Y) of both trading countries as well as the physical distance between the two trading countries. Mathematically, it can be shown as:

$$BT_{ij,t} = A Y_{i,t}^{\alpha_1} Y_{j,t}^{\alpha_2} DIS_{ij,t}^{\alpha_3} \quad (1)$$

Replacing BT with food exports (*FEXP*), and transforming the equation into logarithmic form (ln) will give us the following estimable equation:

$$\ln FEXP_{ij,t} = \ln A + \alpha_1 \ln Y_{i,t} + \alpha_2 \ln Y_{j,t} + \alpha_3 \ln DIS_{ij,t} + \varepsilon_t \quad (2)$$

To strengthen our model, we add two more variables can strengthen our model. The two additional variables are purchasing power index (*GDPpc*) and our focal variable of Halal development (*HD*). Considering short observations facing this study, instead of estimating market size of exporting and

importing countries separately, similarly for purchasing power index, we estimate the combined effect of both markets' size and purchasing power, which can be as follows:

$$\begin{aligned} \ln FEXP_{ij,t} = & \ln A + \beta_1 \ln(Y_{i,t} * Y_{j,t}) + \beta_2 \ln(GDPPC_{i,t} * GDPPC_{j,t}) \\ & + \beta_3 \ln DIS_{ij,t} + \beta_4 \ln HD_{i,t} + \eta_t \end{aligned} \quad (3)$$

Summary of the measurement of each variable as well as the data sources is given in Table 1 below.

TABLE 1: Summary of measurements and data sources

Variable in Equation	Measurement/Proxy	Source
1. <i>FEXP</i> : Food Exports	Total Food Exports (Malaysia to each MEAC).	UNCTAD (2012)
2. <i>Y</i> : Market Size	GDP of Malaysia and MEACs.	World Bank (2012)
3. <i>GDPPC</i> : Purchasing Power	GDP per capita of Malaysia and MEACs.	World Bank (2012)
4. <i>DIS</i> : Distance	Transportation Cost	MISC
5. <i>HD</i> : Halal Development	i. Cumulative volume of Halal certificate being released every year. ii. No. of Halal parks every year. iii. No. of firm operating at Halal Parks every year.	JAKIM, HDC

Note: The data from MISC is obtained from one of the MISC staff. Data for Halal certificates released every year is from JAKIM database. We thank JAKIM staff for emailing us the info freely. The no of firms is own calculation based on the information provided in the HDC reports.

The collected data are from 2004 to 2009. Although Halal certification by JAKIM has been started since quite some times in the past, JAKIM only properly put into data bank since 2004.

## RESULTS

### Correlation Analysis

The primary objective of correlation analysis is to measure the strength or degree of linear association between the two variables (Gujarati, 2003). The result of the correlation analysis is presenting in Table 2. Based on Table 2, shows a remarkable correlation between *GDP* and *FEXP*, which is 48 percent. Conversely, the development of food sector is very much dependence on income level. Conversely, it might also be highlighting the importance of food sectors in generating income to this country and promoting halal could further enhance the sector to become the leading sector in the economy in the future. On the bilateral relationship between *FEXP* and *HD*, the correlation coefficients show a promising result with all recorded a positive relationship. The small size of coefficients is acceptable and intuitively clear as the development is only recently gain momentum and support from government and public.

TABLE 2: Correlation analysis

	lnFEXP	lnGDP	lnGDPPC	lnDIS	lnFIRM	lnJAKIM
lnGDP	0.48	1.00				
lnGDPPC	-0.13	0.39	1.00			
lnDIS	0.18	0.23	-0.36	1.00		
lnFIRM	0.21	0.15	0.07	0.50	1.00	
lnJAKIM	0.15	0.14	0.07	0.46	0.65	1.00
lnPARK	0.16	0.14	0.06	0.47	0.96	0.62

### Regression Analysis

The regression analysis of this study started with the basic regression analysis model, which assumes all countries or pairs are homogeneous. In the next stage, we conduct a panel fixed effect analysis to control for the fact that it is quite impossible for all countries (or pairs) to be homogeneous. We demonstrate the result of the cross-fixed effect and tested a few others competing models such as time-fixed effect, cross and time-fixed effect and the random effect. Unfortunately, the analysis results for cross- and time-fixed effect cannot be presented. This might due to time constraint (short period of time). However, time has no impact on this research. Therefore, researcher does analysis for cross-fixed and also random effect. In order to avoid endogeneity issue, a few elements must be controlled such as the potential heterogeneity and serial correlation. First, we control by applying White Adjusted Standard and second by using fixed or random effect.

Table 3 presents the results of food exports model with three proxies are used as representative of *HD*. In the first model, *HD* is proxied by *JAKIM*, while by *PARK* and *FIRM* in the second and third model, respectively.

TABLE 3: Regression Analysis

	Model 1 (JAKIM)			Model 2 (PARK)			Model 3 (FIRM)		
	Pooled	Cross-Fixed	Random effect	Pooled	Cross-Fixed	Random effect	Pooled	Cross-Fixed	Random effect
Constant	7.16 (0.51)	-78.38 (-6.76)*	-46.81 (-2.17)*	6.70 (0.48)	-55.70 (-3.48)*	-40.92 (-1.95)*	14.86 (1.08)	-29.89 (-3.03)*	-11.51 (-1.34)
lnGDP	0.81 (6.19)*	0.53 (1.21)	0.69 (3.31)*	0.81 (6.18)*	0.68 (2.16)*	0.70 (3.28)*	0.83 (6.51)*	0.47 (1.63)	0.76 (3.57)*
lnGDPPC	-0.48 (-4.12)*	2.46 (4.17)*	-0.21 (-1.39)	-0.48 (-4.11)*	1.39 (3.55)*	-0.24 (-1.36)	-0.52 (-4.54)*	1.71 (2.61)*	-0.37 (-2.90)*
lnDIS	-2.19 (-2.03)*	1.53 (2.06)*	1.95 (1.04)	-2.12 (-2.00)*	0.61 (0.57)	1.50 (0.78)	-2.76 (-2.59)*	-0.92 (-0.74)	-0.73 (-0.62)
lnJAKIM	0.08 (1.87)*	-0.07 (-11.08)*	-0.01 (-0.62)	-	-	-	-	-	-
lnPARK	-	-	-	-	0.35 (1.87)*	-0.05 (-0.42)	-0.01 (-0.06)	-	-
lnFIRM	-	-	-	-	-	-	0.27 (2.78)*	0.07 (1.85)*	0.16 (2.30)*
Model Criteria									
Adjusted-R <sup>2</sup>	0.35	0.96	0.16	0.35	0.96	0.16	0.39	0.97	0.19
S.E. of Reg.	1.01	0.62	0.66	1.01	0.63	0.67	0.98	0.65	0.66
D-W Stat.	1.00	1.98	1.99	0.99	2.06	1.99	0.99	1.99	2.11
F-stat	10.90	142.80	4.48	12.55	116.67	4.47	12.55	159.46	5.20
(Overall)	[0.00]*	[0.00]*	[0.00]*	[0.00]*	[0.00]*	[0.00]*	[0.00]*	[0.00]*	[0.00]*
F-Stat	-	10.21	-	-	9.49	-	-	8.46	-
(redundant test)	-	[0.00]*	-	-	[0.00]*	-	-	[0.00]*	-
Hausman	-	-	8.77	-	-	6.02	-	-	2.90
Test	-	-	[0.06]*	-	-	[0.19]	-	-	[0.57]

Note: Asterisk \*denotes significant at least at 10% critical value. Figure in ( ) stands for t-value and figure in [ ] represents p-value.

The estimated coefficient for GDP are significant in a majority models, indicating that the income level play an important role in exporting food products. Except for cross-fixed in Jakim and Halal firm, both presenting a correct sign however they are not significant. For pooled regression, the three models demonstrate the Gdp and distance are statistically significant at least at 10 percent confidence interval or better have the expected sign. The sign for the distance was negative in which provide strong support to the hypothesis distance is negatively affecting Malaysia exports to MEACs. The negative effect of distance on trade is intuitive, it reflects transportation costs. Surprisingly, both jakim and park for cross-fixed and random effect both show positive results in distance coefficient. In addition, in term of Halal development, mostly the coefficients are significance. However, there are a few variables given a negative sign and obviously not significance. This is because Halal food industry is still at a young one, there is not much information about it, especially at a global level.

### CONCLUSION

This study examines the role of Halal development in Malaysia in promoting Malaysian exports, particularly foods to MEACs. Covering the period between 2004 and 2009, and focusing on 12 MEACs, this study reveals that the Halal development play a vital role in exporting Halal food.

Nevertheless, a few comprehensive steps should be taken in order to ensure Malaysian Halal food accepted globally. Thus, Malaysia needs to intensively and aggressively promote their Halal products all over globe.

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