

**BRAIN GAIN OF CORPORATE BOARD AND  
FIRM PERFORMANCE: EVIDENCE FROM  
MALAYSIA**

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FIRM PERFORMANCE: EVIDENCE FROM  
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by

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**ALIRAN MASUK KEPAKARAN DALAM LEMBAGA KORPORAT DAN  
PRESTASI FIRMA: BUKTI DARI MALAYSIA**

**ABSTRAK**

Meskipun aliran masuk kepakaran penting untuk mengurangkan masalah aliran keluar kepakaran dan memenuhi keperluan modal insan di Malaysia, penyelidikan pada masa ini tidak mencerminkan isu aliran masuk kepakaran di Malaysia dan impak kewangannya masih tidak jelas. Walaupun terdapat banyak penyelidikan mengenai isu aliran masuk kepakaran dalam konteks sumber manusia dan pengurusan strategik, jarang pihak akan memandang isu aliran masuk kepakaran dari perspektif kewangan korporat, disebabkan oleh alasan privasi dan kapasiti data aliran masuk kepakaran. Malaysia merupakan negara membangun dan sektor korporat masih menjadi penyumbang penting kepada pembangunan ekonomi negara. Pembangunan syarikat-syarikat memerlukan sokongan dan kepimpinan daripada lembaga dan pengurusan yang berbakat. Dengan menggunakan sampel sebanyak 803 syarikat dari 10 sektor dalam Papan Utama Bursa Malaysia dari tahun 2009 hingga 2015, tesis ini mengkaji impak aliran masuk kepakaran terhadap prestasi firma. Keputusan *Two-step robust GMM* menunjukkan bahawa dengan setiap peningkatan ahli lembaga aliran masuk kepakaran dalam lembaga, prestasi firma dianggarkan akan meningkat sebanyak 4.55%. Ahli lembaga aliran masuk kepakaran terdiri daripada ahli lembaga asing dan ahli yang pulang dari luar negara, analisis diulangi untuk dua kumpulan ahli ini. Keputusan menunjukkan bahawa bagi setiap peningkatan ahli lembaga asing dan ahli yang pulang dari luar negara dalam lembaga, prestasi firma dianggarkan akan meningkat sebanyak 7.41% dan 3.23%. Kajian ini juga mendapati bahawa kehadiran mesyuarat lembaga dan ahli lembaga keluarga tidak menjejaskan hubungan positif

antara ahli aliran masuk kepakaran dengan prestasi firma. Walau bagaimanapun, kehadiran sekurang-kurangnya seorang ahli lembaga wanita dalam firma mempunyai kesan moderating kepada hubungan antara ahli aliran masuk kepakaran dengan prestasi firma. Analisis selanjutnya mendapati bahawa kesan positif ahli lembaga aliran masuk kepakaran terhadap prestasi firma akan hilang dalam lembaga yang terdiri daripada ahli lembaga lelaki sahaja, tetapi kesan positif tersebut bertambah apabila firma mempunyai ahli lembaga wanita. Penemuan ini konsisten dengan teori berasaskan sumber yang mencadangkan modal insan seperti ahli lembaga aliran masuk kepakaran juga merupakan sumber penting kepada firma. Penemuan dalam tesis ini juga menyokong pelaksanaan polisi aliran masuk kepakaran dan Kod Tadbir Urus Korporat Malaysia 2017 yang menggalakkan firma untuk meningkatkan bilangan wanita dalam lembaga korporat.

**BRAIN GAIN OF CORPORATE BOARD AND FIRM PERFORMANCE:  
EVIDENCE FROM MALAYSIA**

**ABSTRACT**

Despite the importance of brain gain to alleviate brain drain issues and to fulfil the demand of human capital in Malaysia, current research on brain gain does not sufficiently reflect the brain gain situation in Malaysia and its financial impact brought is not evident. While there is abundance of research on brain gain issues from human resource and strategic management context, little has viewed it from corporate finance perspective, owing primarily to privacy reason and capacity of brain gain data. As Malaysia is an emerging country, corporate sector remains the main driver of economic growth. The growing of corporations need to be supported and led by talented company board and management. Using the sample of 803 firms from 10 industries in Bursa Malaysia's Main Board from year 2009 to 2015, this study examined the impacts of the presence of brain-gain director on firm performance. Two-step robust GMM estimation result showed that for every additional number of brain-gain director on board, we can expect firm performance to increase by an average of 4.55%, holding others constant. As brain-gain director is made up of foreign director and returnee director, analysis is repeated for these two groups. It is shown that, for every number of foreign director and returnee director increased on board, firm performance is expected to increase by an average of 7.41% and 3.23% respectively. It is also found that board meeting attendance and the presence of family director do not affect the relationship between the presence of brain-gain director and firm performance. However, the presence of at least one female director on board has significant moderating impact on the relationship between brain-gain director and firm

performance. Further analysis on directors' gender showed the positive relationship between brain gain of corporate board and firm performance disappeared in all-male board, but stronger in gender diversity board. The findings is in line with resource based theory which proposes human capital as one of the resources to the firms. It also supports the implementations of brain gain policy as well as Malaysian Code on Corporate Governance 2017 which encourages firms to have more females on board.

## **CHAPTER 1**

### **INTRODUCTION**

#### **1.1 Background of the Study**

The world has been long noted about the emigration of the best and brightest. Substantial media coverage and worldwide policy makers discuss issues such as brain drain, talent outflow and human capital flight. This is not surprising given that human capital is one of the important resources for a nation to drive the country development to compete with the world. More recently, much of the concern of policymakers and researchers regarding human capital flight issues has been with reverse brain drain, or better known as “brain gain”. Brain gain is a relatively strange term in comparative of the words “brain drain”. Thus, going through the introduction of brain drain will help sharpen our understanding about the concept of brain gain before we move our focal point entirely to investigate brain gain of corporate board in Malaysia.

##### **1.1.1 Brain Drain**

The term ‘brain drain’ was first coined by the British Royal Society in the 1950s and early 1960s to describe the moving of scientists and technologists from the United Kingdom to the United States and Canada (Cervantes & Guellec, 2002; Gibson & McKenzie, 2011). Following the migration of highly educated and skilled workers worldwide, typically from developing countries to developed countries (Dodani & LaPorte, 2005; Gibson & McKenzie, 2011), policy makers and researchers has put brain drain issue into the policy limelight. In identifying the talents loss of the country, different parties have defined brain drain differently. Some parties defined brain drain as the migration of individual with certain occupations, particularly scientists and engineers and some viewed it based on the age of the migrate individuals, for instance



age 25 and above (Carrington & Detragiache, 1998; Rapoport & Docquier, 2006). While brain drain issue has been noticed and termed differently by policy makers and researchers worldwide as early as half century ago, generally it is referring to the migration of high-skilled workers as measured by their level of educational attainment, typically at the level of Bachelor's degree or higher (World Bank, 2011).

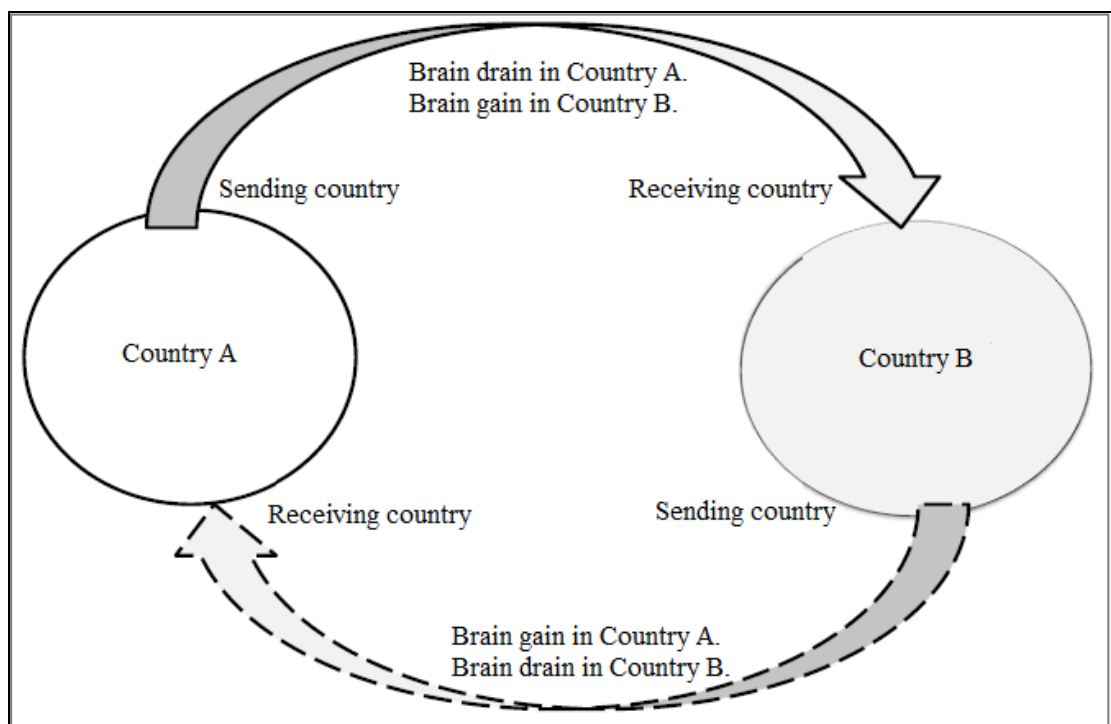
There are many pushing factors responsible for country brain draining. For examples, some people leaving their homeland in pursuit of better paycheck, higher quality of life, advanced technology accessibility or just to stay in a more political stability countries (Carr, Inkson, & Thorn, 2005; Dodani & LaPorte, 2005). Better educated individuals are also found to have higher chances to migrate because individuals with little or no education usually have limited access to international migration (Carrington & Detragiache, 1998; The Economist, May 26, 2011).

Brain drain worries many policy makers as it threatens nation's development. When the high-skilled workers leave, it creates human capital shortage in the local talent pool, leaving nation's technology behind, erode skill base as well as depress nation's innovation (The Star, September 2, 2015; World Bank, 2011). To some extent, draining of talents may result in economic disparity where rich countries becoming richer at the expense of poorer countries (World Bank, 2011). In Jamaica, the government even needs to train five doctors in order to retain one (Schiff, 2005).

Given the severe consequences brought by brain drain, brain drain issues continue to be the central of discussion by policy makers and researchers and this has introduced an opposite term called "brain gain".

### 1.1.2 Brain Gain

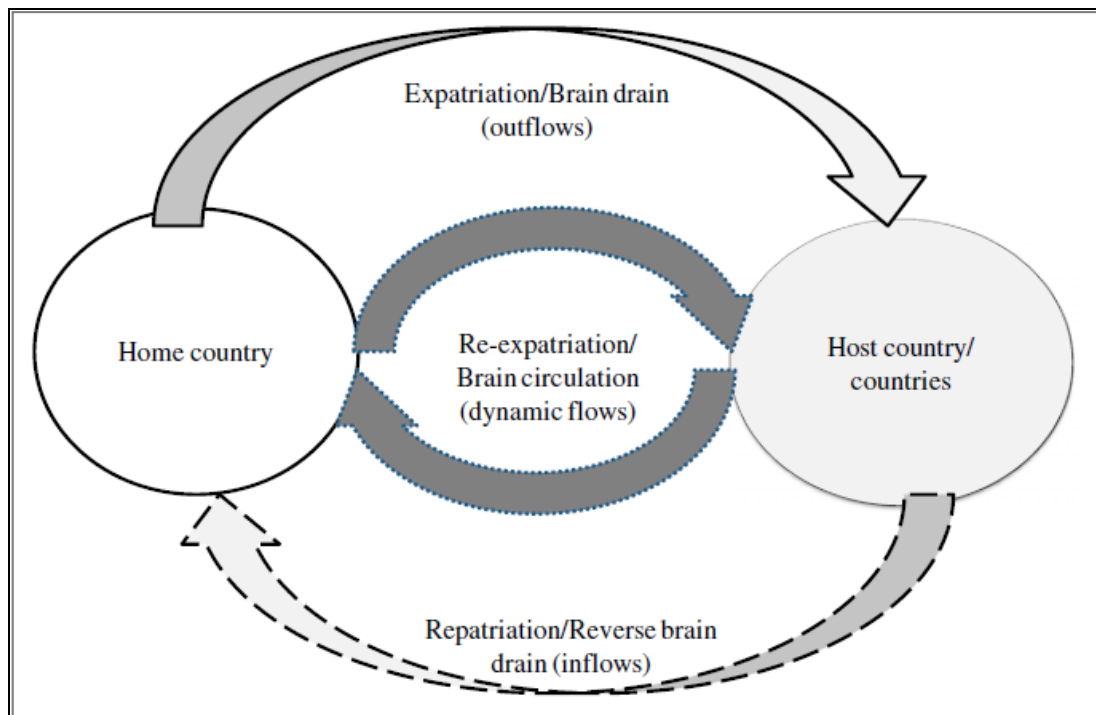
Throughout the literature survey, it is found that there are two types of brain gain. The conventional brain gain happens when the highly educated or skilled foreign-born individuals migrate to the host country which also known as receiving country (Carrington & Detragiache, 1998; World Bank, 2011). As illustrated in Figure 1.1, while the sending country of those high-skilled individuals is experiencing brain drain, the receiving country is said to have brain gain (Lee & Kim, 2010). This forms the first type of brain gain. In this case, a country has to entice international workers or expatriates to stay and work in local temporarily or permanently under particular visa and permits. For instances, United States, Australia, New Zealand, Canada, France, and the United Kingdom have granted permanent resident status to parts of the foreign students in their countries in order to attract and retain highly educated persons (Batalova, 2007).



Notes: Figure illustrated based on explanation of brain gain in World Bank (2011).

**Figure 1.1 Brain drain and brain gain**

On the other hand, in the more recent decades, researchers suggested that brain drain is not the end of the story because brain drain could be reversed (Mayr & Peri, 2008; Mountford, 1997; Stark, Helmenstein, & Prskawetz, 1997; The Star, September 2, 2015), which form another type of brain gain. The second type of brain gain is illustrated in Figure 1.2.



Source : Ho, Seet, and Jones (2015)

**Figure 1.2 Brain drain, reverse brain drain and brain circulation**

According to Saxenian (2005) and Ho et al. (2015), brain drain and reverse brain drain (brain gain) are just parts of brain circulation, in which people migrate from their place of origin to work or study in another place and then return to the place they come from. Brain circulation enables the transferring of technical and institutional know-how which encourages the repatriation of skills and knowledge (OECD, 2016; Saxenian, 2005). When high-skilled brain drain individual staying abroad return to serve their own country of origin, these international returnees are fitted with unique foreign experience and professional knowledge which may beneficial to the talents

sending country and help to fill the local skills gap (The Economist, May 26, 2011; World Bank, July 20, 2015). This was what happened in Korea when Korean engineers who returned from America have saved at least 10 years for Korea in catching up with the Japanese and American in semiconductor industry (Song, 1997).

### **1.1.3 Defining Brain Gain**

Similar to brain drain, it is found that there is no standard definition for brain gain as well. However, brain gain could be interpreted as the opposite phenomenon of brain drain (Stark et al., 1997) and Section 1.1.2 above suggests brain gain of Malaysia could be obtained from two different sources, first by luring high-skilled foreigners to work in Malaysia and second by attracting staying abroad high-skilled Malaysians to come back and work in the homeland. This is supported by the facts that Malaysian brain gain programmes focus on both high-skilled non-Malaysian and Malaysian residing abroad, for instances Returning Expert Programme (REP) which is for returnee and Residence Pass-Talent (RP-T) for foreigner.

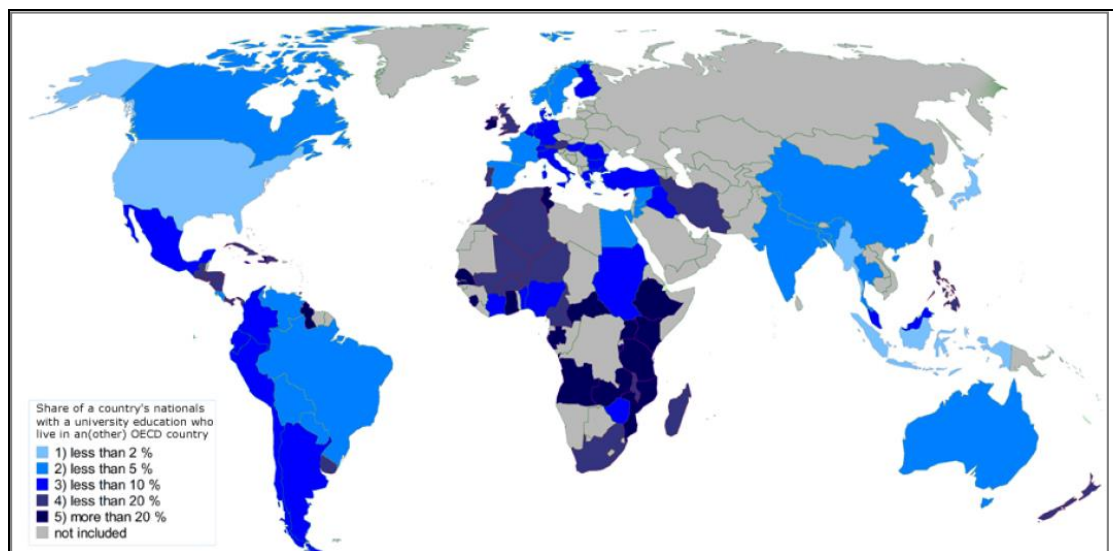
While brain gain could be referring to the emigration of high-skilled workers as measured by the level of educational attainment (World Bank, 2011), locals with unique overseas working or industrial experience might contribute to brain gain (Giannetti, Liao, & Yu, 2015; Mayr & Peri, 2008). For examples, Dato Jimmy Choo Yeang Keat, a Malaysian famous fashion designer based in London, who is well known for his craftsmanship and designs especially in high-heeled footwear. Although Dato Jimmy Choo lives in London, he is currently collaborating with Malaysian government in setting up a shoemaking academy to provide more education for young Malaysian. While the example of Dato Jimmy Choo could not be grouped as pure brain drain or brain gain as he is still contributing to Malaysia though he is staying abroad,

this is the vivid example of how unique skills and industrial experience, other than education attainment, could be a form of brain gain to the nation.

Lastly, it should be noted that the existence of brain drain and brain gain are not mutually exclusive in which a country may experience both brain drain and brain gain at the same time. They remain important agendas in nation development in every part of the world. The definition of brain gain of corporate board in Malaysia will be discussed in Section 1.1.6 .

#### 1.1.4 Brain Gain to Alleviate Brain Drain

Due to the seriousness of brain drain, brain gain has grabbed considerable attention in recent years as researchers believe that it is important in alleviating brain drain (Mayr & Peri, 2008; World Bank, 2011). The level of brain drain of each country to other Organisation for Economic Co-operation and Development (OECD) country is shown in Figure 1.3.



Source: OECD (2016)

**Figure 1.3 Share of a country's nationals with a university degree living in an (other) OECD country**

As can be seen in Figure 1.3, brain drain affected both developed and developing countries. For instances, about 10% of Malaysian and over 20% citizens in United Kingdom, Ireland, Iran and Ethiopia who have university degree live in other OECD countries.

However, brain drain has not seriously affected Singapore because a large influx of foreign skilled migrants, mainly from Malaysia and China has replaced the vacant positions (Saha, 2009). In United Kingdom, immigrants fill 20% of the skilled jobs (The Telegraph, Nov 3, 2013). Former Prime Minister of India, Manmohan Singh once said, *“Today we in India are experiencing the benefits of the reverse flow of income, investment and expertise from the global Indian diaspora. The problem of brain drain has been converted happily into the opportunity of brain gain”* (Gibson & McKenzie, 2011). OECD (2016) also reported that diaspora networks play a critical role in country development, as what start-up companies of returnee in Indian demonstrates. In short, brain gain remains important in alleviating brain drain issues.

### **1.1.5 Brain Drain and Brain Gain in Malaysia**

While brain drain phenomenon continues to occur in every part of the world, it is getting common that we, Malaysian have experienced at least one of the high-skilled people around us or friend of our friends has decided to leave the country in order to work in another part of the world.

According to a report released by World Bank in 2011, about a third of all migration is brain drain. Moreover, one out of ten tertiary graduated skilled workers in Malaysia chose to leave the country and the number is double the world average. The report also revealed that the main drivers of brain drain in Malaysia are career prospect (66%), social injustice (60%), salary and benefits (54%) and study and stay

on (30%). Table 1.1 shows Malaysian diaspora for nine key destinations and Table 1.2 shows Malaysian brain drain statistics for seven key destinations.

**Table 1.1 Malaysian diaspora for nine key destinations**

Country	1980	1990	2000	2010
Singapore (residents only)	120,104	194,929	303,828	385,979
Australia	31,598	72,628	78,858	101,522
Brunei	37,544	41,900	60,401	76,567
United States	11,001	32,931	51,510	61,160
United Kingdom	45,430	43,511	49,886	65,498
Canada	5,707	16,100	20,420	24,063
Hong Kong	--	12,754	15,579	--
India	23,563	11,357	14,685	--
New Zealand	3,300	8,820	11,460	15,995
Other countries	7,855	17,179	50,947	--
Total	286,102	452,109	657,574	730,784

Source: World Bank (2011)

**Table 1.2 Malaysian brain drain statistics for seven key destinations**

Country	Diaspora		Brain Drain	
	2000	2010	2000	2010
Singapore (residents only)	303,828	385,979	66,452	121,662
Australia	78,858	101,522	38,620	51,556
United States	51,510	61,160	24,085	34,045
United Kingdom	49,886	65,498	12,898	16,609
Canada	20,420	24,063	12,170	12,807
Brunei	60,401	76,567	6,438	10,208
New Zealand	11,460	15,995	4,221	6,708
Other countries	81,211	96,602	19,130	22,962
Total	657,574	827,386	184,014	276,557

Source: World Bank (2011)

Table 1.1 and 1.2 showed that most of the Malaysian moved to Singapore, Australia, Brunei, U.S., U.K., Canada, Hong Kong, India and New Zealand. However, Hong Kong and India are not in the top list of Malaysian brain drain destination. It should be noted that the estimation in both tables are based on the number of Malaysians who are residing in Singapore. The number could be even larger once it takes into account the non-resident population who work and travel back and forth from Singapore. Due to the scarcity of data, the statistics of brain drain could only be provided up to year 2010.

While there are more and more diaspora and brain drain being observed, depletion of skilled people in Malaysia has resulted a significant gap in the local talent pool (The Star, September 2, 2015). One of the remedies for this situation is attracting foreign talents to work in Malaysia in order to fill the local's skills gap (Mayr & Peri, 2008; World Bank, July 20, 2015). With this, brain gain remains important to alleviate talents lost phenomenon in Malaysia. In fact, Malaysia is not just a sending country, but also a major receiving country in the world. However, most immigrants are poorly educated and low-skilled from Indonesia who are not afford to alleviate brain drain in Malaysia (World Bank, 2011).

Malaysia's efforts in promoting brain gain have started as early as 1995 when Ministry of Science, Technology and Innovation (MOSTI) launched its first brain gain programme (Davenport & Prusak, 1998). Then, Talent Corp Malaysia Berhad (TalentCorp), an agency set up under the supervision of Prime Minister's Department has also received the mandate to assess and fulfil Malaysia's talent needs. TalentCorp has implemented numerous brain gain programmes such as Returning Expert Programme (REP) and Residence Pass-Talent (RP-T) to attract and retain talents. The REP was originally introduced in year 2001 to encourage Malaysian engineers, bankers, specialist doctors and accountants abroad to return and work in Malaysia. RP-T on the other hand aims to attract and retain foreign talent in Malaysia, especially in key sectors like oil and gas, business and education (World Bank, July 20, 2015). It is reported that REP offered positive monetary value to Malaysia, with net fiscal benefits estimated at RM27,000 per returned applicant (World Bank, 2011). According to World Bank (2011), RM27,000 is pure fiscal benefit and does not include the positive economy-wide externalities generated, hence the total monetary value brought by each returned applicant under REP could be larger. Ismail, Kamaruddin, Baki, and Rasdi



(2014) also stated that family ties are the main reason for Malaysian staying abroad to come back to the nation.

#### **1.1.6 Brain-Gain Director**

Some of the examples of brain gain of corporate board in Malaysia is the hiring of managing director of Malaysian Airlines (MAS). Christoph Mueller, an alumnus of Harvard Business School from German who is widely credited with his experience of Irish airline Aer Lingus's financial recovery, is hired as the CEO of Malaysia Airlines after the MH370 and MH17 incidents in year 2014. Then, Peter Bellew, an Irish graduated with a Bachelor of Business Studies and Master of Arts in Economics from Trinity College Dublin, who is well credited for being able to substantially increase passenger volume of Kerry Airport, Ireland from 6,000 to more than 400,000 under his tenure as director and general manager, is hired as the successor of Christoph Mueller in year 2016. Malaysian Airlines is said to have its most difficult time after the MH370 and MH17 incidents whereas the MH370 flight gone missing during its way from Kuala Lumpur to Beijing and MH17 was shot down as it travelled from Amsterdam to Kuala Lumpur. The appointments of Christoph Mueller and Peter Bellew are believed will change MAS's destiny and turn it profitable. On the other hand, Tony Fernandes, an alumni of London School of Economics, who returned to Malaysia and purchased heavily-indebted airline, AirAsia, which turn to be one of the world's best low-cost airline for 10 years in a row including the latest award for the year 2018.

As discussed in Section 1.1.2, according to literature, there are two sources of brain gain. Moreover, our country brain gain programme which targeted on both foreigner and returnee is in consonance with literature. Hence, this study suggests that

there are two sources of brain gain of corporate board in Malaysia, namely foreign director and returnee director. In this study, both foreign director and returnee director are “brain-gain director”. The usage of the term “brain-gain director” are used frequently in this thesis in order to refer both foreign director and returnee director. We could possibly observe many examples of brain gain and brain drain around us, including in corporate sector and this leads to the problem statement of this research.

## **1.2 Problem Statement**

In today’s globalizing world, cross-border human capital flight is an inevitable phenomenon. International interactions and workplace diversities are common in this global village. Complement with the availability of cheap flight tickets, the decision of leaving a country to work in another country is eventually up to the individual’s choice. Regardless the status of the countries, human capital flight is not going to stop as long as grass is perceived as greener on the other side. To be exact, brain drain issue does not solely affect developing countries such as Malaysia, China and India, but also developed countries like the United States, the United Kingdom and Singapore. However, talent outflow in the United Kingdom and Singapore was alleviated by large number of foreigners (Batalova, 2007; World Bank, 2011). In Korea, returnee workers come back with knowledge and unique experience acquired abroad and created a favourable environment for Korea to develop its economy (Song, 1997). All of these show that brain drain shall be ‘compensated’ by brain gain in order to decrease the consequences of brain drain and improve the nation’s economy.

However, current research on brain gain issues may not sufficiently reflect the situation of brain gain in Malaysia and also its financial impact brought, especially in the corporate sector. In Malaysia, brain gain continues to be central of discussion by

policy makers and relevant parties due to the worsen condition of brain drain. The establishment of TalentCorp does address the importance of brain gain to alleviate brain drain but there is deprived of research in corporate finance context in revealing the current condition of brain gain in Malaysia. There is also lack of research in assessing the impact of brain gain. Deprivation of brain gain research in finance field may be due to the unavailability of brain gain data in Malaysia, owing primarily to privacy reason and capacity (Foo, 2011). Moreover, according to Foo (2011), most of the countries, including Malaysia, do not keep detailed records of citizens who return after prolonged absences and this has posed a challenge in data collection. To the best of our knowledge, the only estimation regarding brain gain was done by World Bank. According to World Bank (2011), each returnee under REP offered net fiscal benefits of RM27,000. Given brain gain programmes does not only involve return experts but also talented foreign individual, a more in depth research is needed to quantify the brain gain situation in Malaysia.

On the other hand, shareholders are concerned whether the hiring of brain-gain directors worth its money. World Bank found that RP-T expatriates earn 4.3 times and REP returnees earn 2.3 times more the wages of their comparable Malaysian professionals (World Bank, 2015). This statistics suggests that Malaysia brain gain programmes target high skilled talent and the employers value international experience. However, it raises the question whether such high wages worth its money. Due to the privacy reason, it might be impossible for us to identify whether foreign directors and returnee directors has indeed received higher wages compared to their co-workers. However, if we apply World Bank findings on wages in corporate sector, it may signal that foreign directors and returnee directors have received higher wages compared to the local directors. According to World Bank (2011), in order to draw the talents to

work in Malaysia, prospect of higher wages is one of the top factors for the skilled to emigrate. As people grow accustomed to higher real wages abroad, wages factor even further gains weight. Since the ultimate goal of every firm is to maximise shareholders value, investors are being concern whether firm should poach foreign talent and returnee with higher price.

Malaysia wishes to join the league of high income nations by year 2020 but the biggest obstacles is the lack of skilled human capital (World Bank, 2011). It is important for us to examine whether human capital attracted and retained to work in Malaysia has really created the value that they have been expected all the while. If yes, this study shall also reveal how their presence makes the difference.

### **1.3 Scope of the Study**

This study narrows the scope to brain gain of corporate board of listed companies in Bursa Malaysia. There are two reasons for this scope setting.

First, as Malaysia is an emerging country, corporate sector remains the main driver of economic growth especially after the 1997 Asian Financial Crisis in which the government of Malaysia started to diversify its economy from concentration in manufacturing sector. In this transformation, corporate sector has played a leading role to explore new market and business. The growing of these corporations need to be supported and led by talented company board and management. In this case, the value of brain gain in corporate board becomes a critical issue. However till now, there is no scientific study assess whether they have created value to the company in specific and to the country in general. Thus, this research will help us to answer whether brain gain has created the value that has been expected all the while.

Second, as all the public listed companies in Malaysia are required to release annual report and include the profile of board of directors, this study is able to extract director's background data and identify the statistics of brain gain. For examples, foreign directors like Christoph Mueller (a German) and Peter Bellew (an Irish) and Tony Fernandes (returnee) from AirAsia. While their presence on the board may not be captured by RP-T, REP or any related brain gain programme, they are the examples of brain gain of the board by foreign directors and returnee directors.

#### **1.4 Motivation of the Study**

Brain gain has captured much attention in the past couple decades, specifically in international human resource management and knowledge management contexts. While there is abundant of anecdotes, there is deprived of research about brain gain issues in corporate finance context. Most of the recent works on brain gain in Malaysia has been with interviewing and surveying the foreign directors and returnee directors as well as analysing the push and pull factors of brain drain and brain gain. Little has viewed brain gain from corporate finance perspective and this remains a gap to be filled. Thus, this paper is motivated to study the magnitude of current brain gain situation of the corporate board in public listed firms in Malaysia and quantify the financial value brought by brain gain to the firm.

Besides that, it is important for us to understand the role of brain-gain directors. Throughout the literature survey, it is found that the importance of brain gain to the firm could be explained by using strategic management theory. This paper extends the literature of brain gain from strategic management context to corporate finance and governance context. Based on the literature survey on corporate board, this study also introduces three moderating variables, namely board meeting attendance, family

director and female director. By extending and diffusing the strategic management theory in corporate finance, this cross-contexts literature explains how foreign directors and returnee directors, the directors who own more resources on the board generated greater amount of financial value to the firms. The presence of the three moderating variables in the study also illustrated the conditions which may affect the relationship between brain gain of corporate board and firm performance

As aforementioned in the scope of study, brain gain of corporate board is not only a firm level concern, but it is also an international economic agenda. While resource based theory in its origin is firm and individual focused theory, our study utilize the resource based theory to shed some lights on the aggregate economic brain gain issue.

### **1.5 Research Questions**

This research mainly studies the relationship between brain-gain director and firm performance. Brain-gain directors are foreign directors and returnee directors. Research questions in this study are as follows:

- 1) What is the impact of the presence of brain-gain director on firm performance?
- 2) Does board meeting attendance significantly affect the relationship between the presence of brain-gain director and firm performance?
- 3) Does the presence of family director significantly affect the relationship between the presence of brain-gain director and firm performance?
- 4) Does the presence of female director significantly affect the relationship between the presence of brain-gain director and firm performance?

## **1.6 Research Objectives**

To answer the research questions, this study embarks on the following objectives.

- 1) To study the impact of the presence of brain-gain director on firm performance, by assessing the directors' nationality background, foreign working experience and foreign education experience.
- 2) To investigate whether board meeting attendance significantly affects the relationship between the presence of brain-gain director and firm performance.
- 3) To investigate whether the presence of family director significantly affects the relationship between the presence of brain-gain director and firm performance.
- 4) To investigate whether the presence of female director significantly affects the relationship between the presence of brain-gain director and firm performance.

## **1.7 Significance of the Study**

Brain gain and brain drain issues, or more generally human capital issue, is a critical national development agenda as human capital is the key element for a developing country like Malaysia to upgrade as a developed country. To the best of our knowledge, this study is valuable as it quantifies the value and contribution of brain gain of corporate board in Malaysia in tangible firm performance, as represented by Tobin's Q. Our result is significant to various interest groups including shareholders, corporate firms, government as well as related researchers.

To shareholders, the results of this research is an important reference for them to evaluate whether the hiring of brain-gain director worth its money. As brain-gain director will usually receive more wages compared to their co-workers, investors are concern about the role of foreign directors and returnee directors as well as their

contribution towards the firm. This reveals whether the firms have achieved their ultimate goal, which is to maximise shareholders value.

To firms, this research quantified the financial contribution of brain gain of the board. As this study illustrated board meeting attendance, family director and female director as moderating variables and examined their effects on the relationship between the presence of brain-gain director and firm performance, firms are able to analyse the conditions which may strengthen the impacts of the presence of brain-gain director on board. For example, firms may find that board with brain-gain directors and female directors are good board composition and this may affect their strategy in hiring directors.

Empirical results in this study also allow the government to assess whether the brain-gain director have created value to the national economy in general. There is insufficient research which reveals the current brain gain situation in the country. This study is important for them as the feedback to evaluate if their effort and money spent in promoting brain gain have generated the value that has been expected all the while.

To researchers, since there is limited study regarding brain gain of corporate board, it contributes to the growing literature exploring the impacts of the presence of brain-gain director on firm performance in Malaysia. This research basically addresses the significance of brain gain in corporate board in corporate finance context and fills the literature gap. Since it also applied resource based theory from strategic management area in corporate governance context, it extends the literature and provide empirical evidence which will enhance the novelty of the resource based theory.



## **1.8 Contribution of the Study**

Throughout the literature review related to human capital issue, it is found that most of the researchers have shifted their focus from brain drain to brain gain (Saha, 2009). This is probably because the research on brain drain issues has been started since half of century ago (Gibson & McKenzie, 2011) and so its analysis is more comprehensive than the newly discussed brain gain topic. Thus, this research is timely and contributes to the literature as it fills the literature gap from three aspects.

Firstly, there are limited researches which quantify the impact of brain gain, specifically in corporate board setting in Malaysia. Most of the previous research view the issue from human resource context and case study or cross sectional data which survey the directors of different firms is involved. Rarely has viewed it from the corporate finance perspectives or apply panel data in data analysing. This study hand-collected the brain gain data in corporate board from year 2009 to 2015 for the public listed companies in Malaysia and presented the impact of brain gain in financial value. This research shows the empirical proof of the advantages of brain gain in numbers and so it is easier for the relevant parties to compare the performance of the firms with or without brain-gain directors.

Secondly, this study extends the literature, particularly research done by Giannetti et al. (2015) who study the brain gain of corporate board in China. Research done by Giannetti et al. (2015) view brain gain issue from the perspective of directors who have foreign working or education experience, regardless its nationality as there are little foreign directors present in their sample of study, which focus on A-share market. Setting in Malaysia is relatively different as many of our independent directors are from Singapore and United States, as stated in Shukeri, Shin, and Shaari (2012). Foreign directors have made up considerable size in Malaysian market. While both

foreign director and returnee directors are brain-gain directors who contribute to the firm, results in this study also showed whether foreign directors have different magnitude of brain gain impact to the firm as compared to the returnee directors.

Thirdly, using resource based theory from strategic management field to explain the impacts of brain-gain directors in the board, and the moderating effects of board meeting attendance, family director and female director. With this, this thesis uses cross-field theory to provide a more humanity and comprehensive explanation which aims to give bigger picture of the mechanism of brain gain of corporate board in Malaysia.

Brain drain is an inevitable phenomenon and brain gain continues to be important in alleviating the adverse effects of brain drain. The research of brain gain topic is necessary and timely and this thesis provide a new dimension on brain gain knowledge and enrich the current brain gain literature.

### 1.9 Definition of Key Terms

Key terms in this study is listed and defined as below:

**Table 1.3 Key terms**

<b>Term</b>	<b>Definition</b>
Brain drain / Human capital flight	The outflow of high-skilled individual from a country.
Brain gain	The inflow of high-skilled individual into a country.
Brain-gain director	Foreign director and returnee director.
Foreign director	Director who has nationality other than Malaysia.
Returnee director	Malaysian director who has either foreign tertiary education and/or foreign working experience. *tertiary education = diploma / degree / master / doctoral degree or equivalent.
Diaspora	A group of people who spread from one original country to other countries, or whose ancestors came from it. Often, it is multigenerational which involves more than one generation (as of a family). For example, the

	expulsion of Jews from the Land of Israel (known as the Jewish diaspora).
Expatriate	Individual who leaves one's native country to live elsewhere, has the ability to return home when his or her experience, especially career-related goal is complete.
Emigration	The act of leaving a country to live in another permanently, including non-high-skilled individual.
Immigration	The act of entering a country and reside in that country permanently, including non-high-skilled individual.
Sending country	The country which sends high-skilled individual out from its country. A sending country experiences brain drain.
Receiving country	The country which receives high-skilled individual into its country. A receiving country experiences brain gain.

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### **1.10 Organisation of the Remaining Chapters**

This thesis has five chapters in total. Chapter 1 presents the introduction and overview of the whole thesis. The rest of this study is organized as follows: Chapter 2 presents the review of the literature in this topic and ends with the summary of hypotheses; Chapter 3 outlines the research framework and describes the methods being employed in this study; Chapter 4 shows the results and discussion and lastly Chapter 5 presents the conclusions.

## **CHAPTER 2**

### **LITERATURE REVIEW**

#### **2.1 Introduction**

While Chapter 1 introduces the topic and research background, literature review in this chapter aims to describe, summarize, analyse, discuss and provide insight on the research topic. By referring to the relevant published work, majorly from scholarly papers, this section first discusses the related theories, followed by reviewing prior research on brain gain topic and the relevant issues from Section 2.2 to 2.5. Based on the theory adopted, the hypotheses are formed and its summary is presented in Section 2.6. Section 2.7 concludes Chapter 2.

#### **2.2 Resource Based Theory (RBT)**

Resource based theory is one of the popular theory in strategic management context. This paper utilises resource based theory in explaining the impacts of the presence of brain-gain director on firm performance.

##### **2.2.1 The History of Resource Based Theory**

Over the past four decades, resource based theory has emerged as one of the most influential theory in strategic management context in understanding the relationship of firm activities and their competitive strategies to outperform in the market. The history of resource based theory could be tracked back to year 1959 when Edith Penrose published his book ‘The Theory of the Growth of the Firm’ (Curado, 2006). Penrose viewed the firm as an administrative organization with a collection of physical and human resources. These productive resources provide the firm with different services or functions, where the same resources can be allocated in different

ways depending on the decision by the firms. Penrose suggested that knowledge of the individuals in the organization is related to the services obtained from the resources and so the firms are important as the repositories of the knowledge in utilising the resources. The insights and ideas of the book last for more than 50 years and was later known as ‘resource based theory’.

Resource based theory was popularized in 1980s and 1990s as an approach to achieve competitive advantage in the firm (Alavi & Leidner, 2001; Barney, 1995; Conner, 1991; Grant, 1996; Wernerfelt, 1984; Wright, Dunford, & Snell, 2001). It attracts a lot of attentions by researchers worldwide especially those from strategic management, human resource and organizational behaviours areas. The core idea of resource based theory is that organizations should look inside the firms for the resources to create the sources of competitive advantage (Nemati, Bhatti, Maqsal, Mansoor, & Naveed, 2010; Wernerfelt, 1984).

The early researcher related to resource based theory including Wernerfelt (1984), Alavi and Leidner (2001), Conner (1991), Grant (1996) and Conner and Prahalad (1996). Wernerfelt was the first person who used the term “resource based view” (Curado, 2006), which is currently known as resource based theory. His influential article, ‘A resource-based view of the firm’ was awarded the best paper prize in Strategic Management Journal in 1984 for its truly seminal contribution as it analysed the firm from the resources perspective, and formed a totally different view from the traditional researchers who just focused on product sides. He analysed the resources of the firm and developed economic tools to examine and manage the relationship between firm resources and profitability of the firm. Since then, more and more researchers viewed the firm from the perspectives of firm resources.

### **2.2.2 What are the Resources?**

In strategic management context, a firm is said should have identified its internal strategic factors, including its strengths and weaknesses so that it is able to determine whether it could take advantage of opportunities while avoiding threats. One of these internal scanning processes is concerned with recognising and developing its resources (Wheelen & Hunger, 2012).

Resources are assets and basic building block of the organization (Wheelen & Hunger, 2012). Different researchers have their own definition for the term “resources”. According to Wernerfelt (1984), anything which could be thought of as a strength or weakness of the firm is known as a resource. It could be a tangible and intangible asset which ties semi-permanently to the firm, including brand names, knowledge of technology, skilled personnel, trade contacts, machinery, efficient procedures and capital. Barney (1991) on the other side, categorised resources into physical, human and organizational resources. Examples of physical resources include the raw materials, plants and equipments, locations and physically technology used in the firms. Human capital resources are the training, experience, judgement, intelligence, relationship and insights of individual managers and workers in the firm while organizational resources are firm’s formal reporting structure, planning, controlling and coordinating systems, informal relationship among groups within a firm and between a firm and those in its environments.

More recently, researchers on strategic management field have grouped the firm resources into three different groups, namely tangible, intangible and human resources. Figure 2.1 illustrates the types of resources available in the firm, based on the most recent publication on resource based theory.

<b>Tangible Resources (Tangible Assets)</b>	<b>Intangible Resources (Intangible Assets)</b>	<b>Human Resources (Human Capital)</b>
<ul style="list-style-type: none"> <li>• Physical ( plants, equipments, vehicles, lands)</li> <li>• Financial (cash, securities, borrowing capacities)</li> </ul>	<ul style="list-style-type: none"> <li>• Technology / intellectual property (patents, copyrights)</li> <li>• Reputation (brand names, relationships)</li> <li>• Culture</li> </ul>	<ul style="list-style-type: none"> <li>• Number of employees</li> <li>• Skills / know-how</li> <li>• Motivations / values</li> <li>• Capacity for communication and collaboration</li> </ul>

Notes: The examples of each resources are collected from Barney (1995) and Wheelen and Hunger (2012).

**Figure 2.1 Types of resources**

Other than the word ‘resources’, two important terms in resource based theory is ‘capabilities’ and ‘competency’. Capabilities refer to a firm ability to exploit its resources and competency is a cross-functional integration and coordination of different capabilities (Wheelen & Hunger, 2012). According to Barney (1991), firm resources include all assets, management skills, capabilities, organizational processes and routine, firm attributes, information, knowledge and so on as they are all controlled by a firm and enable the firm to implement strategies which improve its efficiency and effectiveness (Barney, 1991; Barney, Wright, & Ketchen, 2001). Thus, firm capabilities and competency, the managing process of the interaction among resources in order to turn input into output (Wheelen & Hunger, 2012), are all considered as the resources to the firm. This argument is supported by recent researchers as reflected in Figure 2.1. For examples, reputations, skills, know-how and capacity for communication and collaboration.

Resource based theory of the firm stated that firm perform differently as certain organizations possess resources that others are lacking. Firm with those resources are in favourable business position over their competitors, and this creates competitive