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Performance of Cross-Border Acquisitions:
Evidence from Canadian Firms
Acquired by Emerging Market Firms*

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Abstract

This paper studies the impact of M&A of Canadian firms by emerging market firms on the stock performance of the acquired firms. Using the short-term window event study, we analyze security prices of Canadian listed firms acquired by emerging market firms from 2000 to 2016. After calculating the abnormal return and cumulative abnormal return of target firms we find that the abnormal return on the event day is about +10.3% and the cumulative abnormal return for 11 days is about +10.55%. The findings indicate that in the short-term, the performance of Canadian firms which are acquired by emerging market firms is positive. Technology and mineral firms have significantly positive abnormal return on day 0 whereas energy firms only have small abnormal return for the same time period.

Key words: Cross-border acquisitions, M&A, Emerging countries, Corporate performance, Event studies

JEL classification: G14, G34

Sommaire

Ce papier étudie l'impact des acquisitions de firmes canadiennes par des firmes de pays émergents sur la valeur boursière des firmes acquises. En utilisant la méthode de l'étude événementielle à court terme, nous analysons les prix des actions des firmes canadiennes acquises par des firmes de pays émergents entre 2000 et 2016. Après avoir calculé le rendement anormal et le rendement anormal cumulatif des firmes cibles, nous trouvons que le rendement anormal au jour 0 est de +10.3%, et le rendement anormal cumulatif pour 11 jours est de +10.55%. Les résultats indiquent qu'à court terme, la performance des firmes canadiennes acquises par des firmes de pays émergents est positive. Les firmes dans les secteurs de la technologie et des mines ont un rendement anormal positif significatif au jour 0, alors que les firmes dans le secteur énergétique n'ont qu'un faible rendement anormal à la même date.

Mots clés : Acquisitions internationales, Pays émergents, Performance des entreprises, Études événementielles

Classification JEL : G14, G34

I. Introduction

According to the World Investment Report (2016), global foreign direct investment (FDI) rose by 38 percent to \$1.76 trillion in 2015, which is the highest level since the 2008 financial crisis. In 2014, a surge in cross-border mergers and acquisitions (M&A) to \$721 billion from \$432 billion¹ was the principal factor behind the global rebound. Meanwhile, an increasing number of enterprises from emerging market countries have become active in cross-border acquisition activities during the last two decades. In 2015, China, the Republic of Korea, Singapore and Hong Kong made up three quarters of total outflows from developing Asia. Outward investment from China rose by about four percent to \$128 billion. As a result, China is the third-largest investing country worldwide, after the United States and Japan. In Latin America, outward FDI in Brazil rose by a surprisingly strong 38 percent while in Chile it rose by 31 percent. These figures show that there are many rapidly internationalizing firms from emerging countries becoming a permanent, sizeable and rising feature of the world economy (OECD, 2006).

Canada is also influenced by this emerging countries M&A wave. From table 1 we can see that although more than half of inflows to Canada were from the United States, the assets owned by emerging countries are growing continuously. More and more major Canadian firms are acquired by emerging country investors. For example, Tim Hortons merged in 2014 with Burger King, owned by Brazilian private equity firm 3G Capital. Canadian energy firms are widely purchased by emerging market firms. China National Offshore Oil Corporation (CNOOC), China's third-largest national oil company, purchased Nexen, Canada's ninth-largest oil company for \$15.1 billion in 2012. Considering the upward trend of acquisitions by emerging countries, it is necessary to study the performance of these M&A.

[Table 1 here]

A significant problem in the acquisition performance study is how to measure performance. Several methods were used by previous researchers, such as the short-term window event study, the long-term window event study, subjective performance measures and accounting performance. In this paper, we use the short-term window event study. There are several reasons why we use this method. First, it is widely used by most researchers when they study the firms' performance and it has become standard in evaluating the stock price reaction to a specific event. Zollo and Meier (2008) review 88 articles about M&A performance published in top finance journals

¹ <http://unctad.org/en/pages/PublicationWebflyer.aspx?publicationid=1555>.

between 1970 and 2006. They find that the short-term window event study is the most broadly applied method (41% of total articles), the long-term accounting method (28% of the total) comes second, and long-term window event study is third (19% of the total). The second reason is that it is easy to get the data, which makes it possible to study a large number of mergers. Last but not least, since the abnormal return is calculated, data is not subject to industry sensitivity, which means cross-section firms can be studied.

The data in this paper come from several sources. With the help of Innovation, Science and Economic Development Canada, we obtained the list of Canadian firms acquired by emerging market firms. After identifying listed firms, we determined the event date when acquisitions are announced using the website *Marketwired*.¹ Finally, the security prices of the target firms and S&P/TSX (Toronto Stock Exchange) or NYSE (New York Stock Exchange) Composite Index are found on *Yahoo Finance*² and *Google Finance*.³ After analyzing the data, we found that the number of acquisitions by emerging country acquirers increased rapidly after the 2008 financial crisis, with most bidders coming from Asia. The industries of target firms become more diversified; in addition, different countries focus on different sectors. With the Market Model, we calculated the abnormal return and cumulative abnormal return of target firms.

The results indicate that the abnormal return on event day (day 0) is about +10.3%, whereas the cumulative abnormal return for 11 days (-5, +5) is about +10.55%. This indicates that in the short-term, the performance of Canadian firms which are acquired by emerging market firms is positive. The abnormal return increases significantly on the event day 0 and day 1 and it is back to normal after day 1. At the same time, the cumulative abnormal return also increases significantly on day 0 and stays positive till day 5. Technology and mineral firms have significantly positive abnormal return on day 0 whilst energy firms only have small abnormal return for the same time period. The cumulative abnormal return of technology firms is 0.1721 and mineral firms get positive 0.1817 during the event window. However, the cumulative abnormal return of energy firms is negative 0.0692 in the short-term.

This paper contributes to the literature on the performance of M&A by focusing on mergers where the acquirers are emerging market firms. Moreover, this is the first study to focus explicitly

¹ <http://www.marketwired.com/>.

² <https://ca.finance.yahoo.com/>.

³ <https://www.google.ca/finance?hl=en&gl=ca>.

on the acquisition of Canadian firms by emerging market acquirers. From a policy point of view, the generally positive abnormal returns found in this paper suggest that the Canadian government should relax certain restrictions on FDI. Canada has stricter FDI regulations than the average OECD country. As the positive abnormal returns suggest a positive competitive effect for Canadian firms, the results justify adopting a more liberal approach toward FDI, especially in sectors like technology and minerals, where the abnormal returns are more important.

The rest of the paper is organized as follows. Section II summarizes previous research on the acquisition performance and some features of emerging country acquirers. Section III introduces the method used to measure the acquisition performance and calculate the abnormal return. Section IV shows the data collecting steps and analyzes the data. Section V presents the empirical results after conducting the Market Model. Section VI concludes.

II. Literature Review

Although the number of articles which study emerging market acquirers is not as large as that for developed-market acquirers, the rise of emerging countries in M&A has received more attention from scholars in recent years.

A. Different motives for M&A

There are a number of papers which examine the multi-nationalization motives of emerging country firms. Obviously, different firms have different motives for M&A and emerging market acquirers have some motives which differ from the way M&A are traditionally pursued.

Firstly, the typical Western model of international expansion is that the firm possesses the related knowledge and technology it needs to meet the needs of the foreign markets, and the cross-border acquisition is undertaken in order to exploit ownership advantages (Dunning, 1988). In emerging markets acquirers aim mainly at cutting costs and creating growth opportunities (Rothenbuecher and von Hoyningen-Huene, 2008).

Moreover, several other hypotheses have been identified that can explain the causes of cross-border M&A in developed countries. Rhodes-Kropf et al. (2005) view that overall M&A are an outcome of difference in valuation of assets by different economic agents. The overvalued firms should become the acquirer and the undervalued firms should become the target. Based on this hypothesis, Trautwein (1990) argues that if there is information asymmetry or economic shock

during the acquisition, then a firm may be acquired by another firm because it is undervalued and there is valuation difference between them. Roll (1986) states the hubris hypothesis that managers of acquirers are so over-confident about their estimation that they overvalue target firms. The hubris hypothesis occurs in the merger activity due to asymmetric information between the bidder and the target firm (Seth et al., 2000).

Since cross-border mergers belong to FDI, the foreign exchange rate and its fluctuation can affect FDI flows. Scholes and Wolfson (1990) have found support for the hypothesis that buyers purchase target firms when their currency is strong against the host currency. The firm from the appreciating currency country will be an acquirer and the firm from the depreciating currency country is a target. Senbet (1979) contends the tax arbitrage hypothesis that under different tax policies, if the foreign tax rate is lower than the domestic rate, the value of the firm will be positively influenced. Also, some scholars argue that the cross-border merger may be undertaken for a purely strategic rather than a value-creation purpose (Wilson, 1980; Caves, 1991; Hill et al. 1990; Schenk, 1999).

Cross-border acquisitions are a primary mode of investment for many emerging market multinational enterprises to enter developed country markets (Yamakawa et al., 2013). David et al. (2015) analyze more than 1000 cross-border acquisitions by emerging market companies (Brazil, China, Egypt, Hong Kong, India, Mexico, Peru, Philippines, Republic of Korea, Russia, Thailand, United Arab Emirates, etc.) and they categorize these companies by the most common motives of acquisition. They conclude that the main motive that emerging market companies reach across borders is to fill capability gaps caused by limited access to strategic resources, for example, intangible assets like management capabilities (Figure 1). They also show that, over the long-term, about a third of M&A deals made by multinational companies headquartered in emerging markets have been made to enter new markets, acquire natural resources and improve efficiency.

[Figure 1 here]

After examining motives and performance of cross-border M&A in China, Boateng et al. (2008) find that diversification and international expansion are the dominant motives for Chinese firms. Lower institutional constraints also affect outward M&A by Chinese firms, because they tend to gain strategic capabilities to offset competitive disadvantage and target countries have better institutional quality (Rui and Yip, 2008; Deng, 2009; Ebbers et al., 2011).

Not only Chinese firms, but also firms from other emerging markets make acquisitions motivated by vertical expansion and the desire to enter into previously inaccessible markets (Pradhan, 2010). Meanwhile, Nayyar (2008) examines cross-border M&A by Indian firms and he finds that they are driven by two factors: greater access to financial markets and liberalization of government policies toward FDI.

B. The role of the government

Emerging market governments play an important role in the process of cross-border acquisitions. Governments of emerging countries are eager to enter established markets and grab a share of economic power. Cross-border M&A by government-controlled firms have drawn much attention in the media. Liao (2010) finds that there are over \$230 billion across 886 cross-border M&A deals related to government-controlled entities as acquirers in 2007 and 2008. As discussed in section II.A, to acquire natural resources is one of the main motives of cross-border M&A for emerging markets. Often, state-owned enterprises are natural-resource seekers; some well-known landmark transactions of this type include Brazilian metals and mining company Vale acquiring Canadian mining company Inco in 2006, and the Chinese oil and gas company Sinopec merging with the large Russian oil firm Udmurtneft that same year (David et al., 2015). Liao (2010) shows some evidence that government-controlled firms are more likely to acquire larger target firms, like natural-resource firms, especially when sovereign wealth funds are involved.

Policy changes are the key point in the wake of globalization of firms in emerging markets. Emerging countries and markets have taken a positive attitude towards the internationalization trend. India experienced rapid growth in outwards FDIs between 2000 and 2007 after the liberalization of the policy regime by the government (Duppati and Rao, 2015). This is mainly because the policy change removed the shackles which prevented domestic firms from cross-border merging. The Chinese government also made the change in 1999, initiating the “going global” policy to promote Chinese investments abroad. The assistances from the Chinese government are in the form of access to inexpensive financing, and research and policy support (Guo, 2014). Sometimes, the government of an emerging country is not only a supporter for their firms’ cross-border merger, but also an active investor via control of the state-owned enterprises (SOEs), which means governments represent the largest shareholder in the acquiring firms (Chen and Young, 2010). Based on the study of 450 cross-border M&A in China, Guo (2014) concludes

that Chinese SOEs are willing to pay higher premiums compared to non-SOEs. The high acquisition premium means a danger for the acquiring firm's value, since the "overpayment" should be achieved to sustain the acquired firm's market value (Sirower, 1997).

Why do the SOEs in emerging markets offer higher premium to acquire assets in developed countries? Hope et al. (2011) show that the reason is "national pride". Since there is "overpayment", many observers have expressed their concern that the rise of cross-border M&A by SOEs would bring an equivalent rise in inefficient multinational enterprise activities (Guo, 2014). However, inefficiency is not the only concern for the SOEs cross-border mergers, but also national security. According to a survey by the Asia Pacific Foundation of Canada, Canadians don't trust the SOEs from emerging markets and they opposed acquisitions by SOEs. Based on the report from Asia Pacific Foundation of Canada, Hemmadi (2014) points out that Canadians tend to accept investment from state-owned firms controlled by traditional western countries but not from those controlled by emerging countries. And these worries about security issues will also push down the support for economic engagement with emerging countries.

C. Acquiring and target firms' performance

No matter what motive the firm has or whether it is a SOE or not, it should pursue good financial and operating performance. It has been years that the study of M&A performance has become part of organizational behavior, corporate finance and strategic management literatures (Zollo and Meier, 2008). Before we discuss the performance of cross-border M&A, we should define what is a "successful" merger. Bruner (2002) gives three possible outcomes of merger:

- Value conserved, where investment returns equal the required returns. This does not mean the merger is a failure. For example, when an investor requires a return of 20%, he will get it if the value is conserved. In a nutshell, the investor earns a "normal" return.

- Value created, where investment returns exceed the required returns. The wealth will grow higher than the investor's expectation.

- Value destroyed, where investment returns are less than required.

Hereafter we classify the literature findings into two groups of studies: positive returns (value created/conserved), and negative returns (value destroyed).

A first group of studies finds that cross border M&A are mostly value-destroying. Some researchers state that only about 20 percent of all mergers are successful in the end and most

mergers fail to achieve any financial returns (Grubb and Lamb, 2000). Based on the study of cross-border M&A from 75 nations, Mantecon (2009) finds that a total of \$187 billion was lost for the shareholders of the purchasing firms in the three days around the M&A announcement date. Aybar and Ficici (2006) state that on average, cross-border mergers of firms from emerging markets are value-destroying rather than value-creating after analyzing 433 cross-border M&A associated with 58 bidding firms from 1991 to 2004. After studying 39 acquisitions during 2000 to 2008, Chen and Young (2010) find that cross-border M&A by Chinese government owned firms tend to destroy value. Bertrand and Betschinger (2012) study 120 cross-border and 600 domestic M&A in Russia, concluding that domestic and cross-border M&A reduce the performance of acquirers and destroy value. Andre et al. (2004) analyze the average long-run abnormal performance of 267 mergers during 1980 to 2000, and find that in most cases Canadian acquirers underperform significantly over the period after the event; moreover, cross-border mergers perform poorly in the long-run.

A second group of studies concludes that a large portion of cross-border M&A are value-conserving/creating. Based on a study of 27 acquisitions during 2000 to 2004, Boateng et al. (2008) find that cross-border M&A by Chinese publicly-listed firms are value-creating mergers. Analyzing 425 cross-border M&A by Indian firms during 2000 to 2007, Gubbi et al. (2010) find that these international acquisitions create value for the acquiring firms. Moreover, they show that the institutional advancement of the host country where the acquisition is made is positively correlated with the performance of the M&A. Du and Boateng (2012) summarize the related literature and find that the majority of studies about cross-border M&A in emerging markets report positive returns for acquiring firms and only a few find evidence of value destruction. Kohli and Mann (2012) analyze 202 cross-border and 66 domestic acquisitions by Indian firms; they find that domestic M&A create less wealth gains than cross-border ones. Eckbo and Thorburn (2000) analyze a large sample of U.S. acquirers in Canada and find that bidders from the U.S. earn statistically insignificant abnormal returns. They also show that the most profitable acquisitions are those where acquirer and target have similar total equity sizes.

Some researchers have tried to find what factors affect cross-border M&A performance. Based on a study of cross-border M&A in the Eastern and Central Europe energy market, Bednarczyk et al. (2010) find that short-term returns of targets are negatively affected by diversification bids and positively affected by industrially related bids. Gubbi et al. (2010) find

that performance is related to the host country's institutional development compared to the home country. As discussed in section II.B, cross-border M&A by SOEs would bring an equivalent rise in inefficient multinational enterprise activities (Guo, 2014). Wright et al. (2002) also examine the effect of ownership on the valuation of acquisitions. Some other factors, like payment type (King et al., 2004), firm size (Moeller et al., 2004) and prior acquisition experience (Haleblian and Finkelstein, 1999) may also influence the performance of cross-border acquisition.

Adding to this literature, our paper is the first paper to focus explicitly on the acquisition of Canadian firms by emerging market firms. As we will see, those M&A turn out to be value-creating on the whole, thus supporting the findings of the second group of studies identified above.

III. Methodology

A. Overview

Despite the massive amount of research done, there is little agreement across disciplines on how to measure acquisition performance. Different methods are used in different fields. In this paper, we use the short-term window event study method. An Event study is a statistical method to assess the impact of an event on the value of a firm. The short-term window event study method is designed to measure the abnormal stock price change related to an unexpected event such as the announcement of a merger, allowing researchers to conclude whether an event had a positive or negative effect on shareholder wealth. The event window is the period over which the effect of the event is measured. The "short-term" means the analysis is ex-ante, which could help to predict future profitability.

B. Assumptions

The application of the short-term window event study is based on several assumptions. The most important assumption is that the market is efficient. An informationally efficient market is one in which the current price of a security fully, quickly and rationally reflects all available information about that security.¹ In an efficient market, information such as the announcement of M&A will have an effect on the price of the stock. In this paper, most firms are listed on the TSX and several are listed on the NYSE. After comparing the primary and secondary market efficiency

¹ <http://www.investopedia.com/terms/e/efficientmarkethypothesis.asp>.

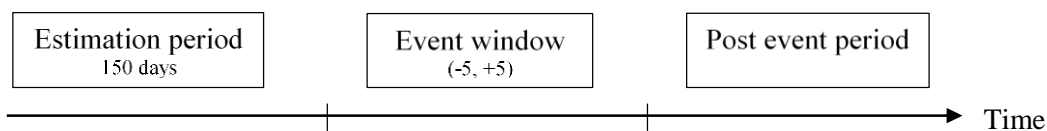
of the Toronto and New York stock exchanges, Robinson and White (1990) find that Canadian stock markets seem to be reasonably efficient in comparison with those of the U.S. Secondly, the event under study is unanticipated, which means the market price should not be affected by the release of information that is well anticipated. In the third place, there is no “confounding” effect during the window event (Wang and Moini, 2012). Under these assumptions, abnormal returns are used to measure short-term performance.

C. Market Model

There are many models used by researchers to measure the abnormal returns when they use the short-term event study. Some broadly applied methods are the Market Model (Sharpe, 1963), Market-adjusted Model, Capital Asset Pricing Model, and Fama–French Three-factor Model (Fama and French, 1993). In our paper we use the Market Model to calculate the abnormal returns of the target firms.

The method works as follows: First, define the event and the window,¹ then determine the estimation period prior to the event window. Based on the estimation period result, the method estimates the expected normal return for the event window with the Market Model. Thereafter, the method deducts this 'normal return' from the 'actual return' to obtain the 'abnormal return' attributed to the event.

In this paper, the event is defined as the announcement day of the merger, abbreviated “0” and the event window includes 11 trading days symmetrically surrounding the identified event day, abbreviated (-5, +5). Then we determine the length of the estimation period as 150 days, which is the period of trading days (before the event date) that is used to estimate the expected return. The timeline is shown below.



After collecting the target stock price data, we calculate the daily returns of both individual share price and market index data. Then, the Market Model is introduced to calculate the expected return of the stock. The definition of the Market Model from NASDAQ is that “The market model

¹ The event window is the period of trading days over which we want to calculate abnormal returns.

says that the return on a security depends on the return on the market portfolio and the extent of the security's responsiveness as measured by beta".¹ This model assumes a linear relationship between the return of the market portfolio and the return of a security. Here we define the following equation for each security i :

$$R_{it} = \alpha_i + \beta_i R_{mt} + \varepsilon_{it} \quad (1)$$

R_{it} is the return on security i at time t and R_{mt} is the return on the market portfolio during time t . Under the assumption of linearity and normality of returns, ε_{it} is the random error term for security i at time t . The return on the market portfolio R_{mt} is calculated from the indices of the TSX (S&P/TSX Composite Index, S&P/TSX Venture Composite Index) and the NYSE. α_i and β_i are the two parameter estimates in the estimation period given by equations (2) and (3) below.

$$\beta_i = \frac{\sum_{i=1}^n (R_{mt} - \bar{R}_m)(R_{it} - \bar{R}_i)}{\sum_{i=1}^n (R_{mt} - \bar{R}_m)^2} \quad (2)$$

$$\alpha_i = \bar{R}_i - \beta_i \bar{R}_m \quad (3)$$

α_i is the intercept of the regression line and stands for the risk-free rate. β_i is the slope coefficient of the regression line and stands for systematic risk. After we get α_i and β_i , the expected return $E(R_{it})$ of the target firm can be calculated using equation (1).²

The next step is to calculate the daily abnormal return of the share price during the event window. The equation is:

$$AR_{it} = R_{it} - E(R_{it}) \quad (4)$$

AR_{it} is the abnormal daily return on security i in the window period, which equals the actual daily return R_{it} minus the expected return $E(R_{it})$. Furthermore, cumulative abnormal returns are calculated by summing the average AR for the days of the event window:

$$CAR_{it} = \sum_{i=1}^n AR_{it} \quad (5)$$

Also, we want to know whether the cumulative abnormal return is caused by the fluctuation of share prices or by other reasons. The t-test is necessary to check the statistical significance of the cumulative abnormal returns. The basic method is to see whether the final value generated from the significance test is located in the acceptance region.

¹ <http://www.nasdaq.com/investing/glossary/m/market-model>.

² The expected value of the error term equals zero.

IV. Data

A. Data collection

Since there is no direct outcome data available describing Canadian firms which are acquired by emerging market firms, we collected the related data using the following steps.

(1) Find the list of Canadian firms acquired by emerging market firms. With the help of Innovation, Science and Economic Development Canada, we obtained the list of “Completed Applications for Review and Notifications”.¹ This database shows a list of completed decisions and/or notifications of investments by non-Canadian firms in Canada sorted by month from 1985 until November 2016. It contains only the information which may be disclosed under the Investment Canada Act, namely the name of the investors and their location, the name of the business being acquired or established and its location, and a description of the business activities of the Canadian business. According to the information provided by Innovation, Science and Economic Development Canada, foreign investments are divided into three categories:

- “*Decisions*” refers to an investment in Canada by a non-Canadian firm, where the investment results in the latter acquiring control of an existing business in Canada and the value of the investment exceeds the relevant monetary threshold (e.g. \$600 million for a WTO, private sector investment). Therefore, the Minister must make a decision regarding them.

- “*Notifications – Acquisitions*” refers to an investment in Canada by a non-Canadian firm, where the latter acquires control of an existing business in Canada and the value is below the relevant monetary threshold. Compared with the “*Decisions*”, these investments do not require any approvals - the investor simply has to notify the government that the investment occurred.

- “*Notifications – New Business*” refers to an investment where a non-Canadian firm starts a new business in Canada.

Since the acquisitions are what we’re looking for, “*Decisions*” and “*Notifications – Acquisitions*” were reviewed for the qualified data.²

(2) Determine which countries qualify as emerging markets. In this paper, the definition of “emerging countries (markets)” is based on the market classification by MSCI.³ MSCI is an independent provider of research-driven insights and tools for institutional investors. It has deep

¹ https://www.ic.gc.ca/eic/site/ica-lic.nsf/eng/h_lk00014.html.

² Note that the data does not include expansion of established foreign firms, only new ones.

³ <https://www.msci.com/market-classification>.

expertise in the areas of risk and performance measurement that is based on more than 40 years of academic research and real-world experience. According to the MSCI market classification, the acquisitions whose investors are emerging countries/markets were screened out. We chose the data between 2000 and 2016 because there are few Canadian firms acquired by emerging market firms before 2000. In some cases, the data show a firm is from an emerging country, but it is registered in a developed country, we regard it as an emerging market acquirer.

(3) Find whether the target firm is listed on the TSX or the NYSE. We typed in the name of a firm and searched for the related record in the exchange website. This is a time-consuming process but is necessary. Most target firms acquired by emerging market firms are small and are not listed on the exchange.

(4) Identify the exact event date. If the event was announced on a non-trading day, the next trading day is the correct event day to choose. The event day is defined as the announcement day of the acquisition. Based on the result from step (3), the event date is easier to identify because corporate events such as acquisition or actions of investors in the capital market must be announced publicly. In some cases, investor information is accessible through the website of the firm, and some acquisition announcement can be found on the *Marketwired* website. *Marketwired* is part of NASDAQ and it provides news release distribution and a full range of communication solutions to public relations, investor relations and marketing professionals. We searched for names of the target firms in the “Newsroom”¹ and found which news are related to the acquisition announcement. As a result of the lack of information, we identified the exact event date of 4/5 of the listed firms.

(5) Collect the data of the security prices of the target firms and S&P/TSX or NYSE Composite Index. The security prices we use in this event study are closing prices. The data sources where we collected the historical security prices of the target firms are *Yahoo Finance* and *Google Finance*. Some target firms are delisted from the stock exchange, which means that it is difficult to get their historical prices publicly; these are only available from paid sources due to the amount of research involved in determining the identity of delisted securities, surviving entities in merger scenarios, company name changes, symbol changes and to ensure that the data coverage is complete. Many stocks that are delisted from a major exchange due to financial difficulties are still publicly tradeable companies with their shares continuing to trade as Over the Counter (OTC).

¹ http://www.marketwired.com/news_room/.

Some large companies even have periods where they traded for a period of their history as OTC. All historical stock prices of listed and OTC firms could be found on *Yahoo Finance* or *Google Finance* websites. The length of the estimation period is determined as 150 days, which is the period of trading days before the event date and the event window is 11 days. Therefore, the data of the security prices of the target firms and S&P/TSX or NYSE Composite Index are collected for at least 170 trade days for each firm.

B. Data analysis

Based on the information given on the webpage “Completed Applications for Review and Notifications” by Innovation, Science and Economic Development Canada, we obtained 533 qualified M&A instances and summarized the data in five categories: time, name of investor, name of target, industry of target firm, and country of origin of the investor. The time trend is shown in figures 2 and 3. From figure 2 we can see an upward trend from 2000 to 2016 and there is a rapid growth after 2009. The year 2008 is critical, because the 2008 financial crisis is the worst financial crisis since the Great Depression. Also, this year makes a difference when we analyze the acquisition of Canadian firms by emerging country/market bidders. In figure 3 we can see how the growth rate changes in advanced and emerging countries before and after the 2008 financial crisis; it is obvious that emerging countries performed better than advanced countries. Then it is not surprising when figure 4 shows that during the period 2000 to 2016, the M&A after 2007 represent about 70% of all the mergers.

[Figures 2, 3 and 4 here]

Secondly, we ranked the number of M&A by countries from largest to smallest. As figure 5 shows, Hong Kong,¹ China and Korea occupy the top three places. Most countries are Asian countries. Brazil, South Africa and Mexico take the fifth to seventh places, all having the same number of acquisitions. There are some other emerging country/market acquirers purchasing Canadian firms, such as Russia, Peru, Saudi Arabia, Philippines, Poland, etc. Before 2008, most emerging country acquirers were from Hong Kong and Middle Eastern countries. The purchases of Canadian firms by Chinese, Korean and Indian bidders started to increase rapidly after the 2008

¹ In the MSCI market classification, Hong Kong is listed in the developed market. However, the transfer of sovereignty over Hong Kong from the United Kingdom to China took place in 1997, which is the year before 2000 and many Hong Kong firms are subsidiaries of companies in mainland China. Therefore, Hong Kong is regarded as an emerging market in this paper.

financial crisis. This is partly because economic growth was higher in these countries compared with developed countries during the financial crisis. Some other reasons such as to enter new markets, to acquire natural resources and to improve efficiency can also motivate the acquisition as discussed above.

[Figure 5 here]

In third place, we focused on the analysis of the industry of target firms and summarized three categories together. Figure 6 shows the industry distribution of target firms. Almost one third of the target Canadian firms belong to the energy industry which is oil and natural gas. This fact is not surprising since Canada is the fifth largest energy producer in the world¹ and oil prices decreased more than 70 percent after June 2008, which was a disaster for energy firms. Technology is in second place, which includes information technology, biotechnology, pharmaceutical and chemistry. According to the 2014 Canadian ICT Sector Profile by Innovation, Science and Economic Development Canada, there are over 36,000 companies in the Canadian Information and Communications Technologies (ICT) sector and it plays an important role in the Canadian economy. Since 2007, the ICT sector has posted stronger growth than the total economy. ICT sector growth was slightly ahead of the overall economy in 2014: the sector increased by 2.7%, compared to 2.5% for the total Canadian economy.² The acquisitions of technology firms show that emerging countries/markets want to acquire strategic assets and invisible wealth through cross-border M&A. Some other industries such as tourism including hotels, educational services and real estate attracted the attention of emerging countries bidders in recent years.

[Figure 6 here]

When we analyzed “country” and “industry” together, we found it interesting that different countries focus on different sectors. The top buyers for energy firms are China, Hong Kong, Korea and Malaysia. Most bidder firms are state-owned companies such as China National Offshore Oil Corporation, Korea National Oil Corporation and Petroliam Nasional Berhad (Malaysia). In these acquisitions, emerging country bidders focus on the highly developed infrastructure owned by Canadian companies as well as the petroleum reserves, and most target firms are located in British Columbia and Alberta. Indian acquirers prefer to purchase technology firms, especially research

¹ According to Natural Resources Canada, the energy sector in 2007 contributed 5.6% to GDP and \$90 billion in exports.

² https://www.ic.gc.ca/eic/site/ict-tic.nsf/eng/h_it07229.html.

and information technology companies. Brazilian and Mexican firms tend to buy manufacturing firms, whereas Chilean and Peruvian firms prefer natural resources. Russian and Polish firms also choose to purchase energy firms and natural resources.

Overall, the number of acquisitions by emerging country acquirers increased rapidly after the 2008 financial crisis, with most bidders coming from Asia. The industries of target firms became more diversified, and different countries focus on different sectors. In the next section, we conduct the event study and present the empirical results.

V. Empirical Results

After collecting the security prices data, we obtained 35 qualified target firms listed on the TSX or the NYSE. We calculated the abnormal return and cumulative abnormal return using the Market Model. The results show that the abnormal return on the event day (day 0) is about +10.3% and the cumulative abnormal return for 11 days (-5, +5) is about +10.55%.

A. Overview

Table 2 shows the abnormal return of target firms from day -5 to day +5. We can see that there is a large variation in returns: the average abnormal return is positive 10.3% and the median is positive 0.8% on day 0 which means most firms gain positive return when acquisitions are announced. The minimum abnormal return on day 0 is negative 16.25% and the maximum abnormal return is positive 94.2% which means there are big differences in returns and not all firms benefit from the announcement of acquisitions. The column “average” shows that firms get the highest abnormal return on day 0 and do not gain big abnormal return after the event day. From day 1 to day 5, average and median abnormal returns are very close to 0, which shows that the security price comes back to normal after the announcement day. When we take a look at the standard deviation column, the value on day 0 is still the highest. This proves that there is a big abnormal return difference for different firms. Figure 7 shows the distribution of abnormal returns on day 0.

[Table 2 and Figure 7 here]

For example, Tim Hortons was acquired by Burger King which is majority-owned by the Brazilian firm 3G Capital in 2014. On the event day August 24th when Burger King announced that it was in negotiations to merge with Tim Hortons for 18 billion U.S. dollars, the abnormal

return is 18.57% (t-test 17.2864, significant at 0.01 level) which is a good return. Meanwhile, when the Russian firm Stillwater Mining Company purchased Marathon PGM Corporation on September 7th 2010, the abnormal return reaches as high as 94.19% (t-test 18.3876, significant at 0.01 level) which is exceptional.

Table 3 shows the cumulative abnormal return of target firms from day -5 to day 5. The average cumulative abnormal return (0.1055) and median cumulative abnormal return (0.0126) remain positive after the announcement day. This shows the positive short-term performance for Canadian firms acquired by emerging market firms. However, the minimum cumulative abnormal return is -0.4637, which means there are still some firms losing value after the announcement. The maximum cumulative abnormal return is 1.6279, which is when Indian Gujarat State Fertilizers and Chemicals Ltd acquired Karnalyte Resources Inc. in Saskatoon on March 14th 2016. The column “standard deviation” shows the obvious cumulative abnormal return change during the event window. From day -5 to day -1, the standard deviation almost remains the same. But after the event day 0, it increases significantly. This indicates that some firms benefit a lot from the merger even though other firms lose in value. Figure 8 shows the distribution of cumulative abnormal returns.

[Table 3 and Figure 8 here]

Figure 9 summarizes tables 2 and 3 together and makes the result more clear. It shows a significant increase of abnormal return on the event day 0 and day 1 and it is back to normal after day 1. The cumulative abnormal return also increases significantly on day 0 and stays positive till day 5. As the graph shows, the cumulative abnormal return reaches the maximum at 0.1299 on day 3 and then keeps decreasing after that. Figure 10 also reveals changes of abnormal return and cumulative abnormal return in a more direct way. In the next part, we focus on the industry relationship with abnormal returns and cumulative abnormal returns.

[Figures 9 and 10 here]

B. Industry effects

Tables 4 to 9 show abnormal returns and cumulative abnormal returns in three different industries. There are 32 of 35 firms in the technology, energy and mining industries so we analyze these three industries separately. Table 4 shows the abnormal returns of target firms in the technology industry. The average abnormal return on day 0 is +0.0978 which is almost equal to

the overall return. The median on day 0 is close to 0 and the standard deviation is 0.1612, the performance of technology firms is slightly positive. The column “maximum” shows technology firms have a significantly positive performance from day 0 to day 2. Table 5 indicates that the cumulative abnormal return of technology firms is positive during the event window (average 0.1721). In summary, investors and target technology firms are glad to see the positive performance in the short-term.

[Tables 4 and 5 here]

For energy firms, table 6 shows the average abnormal return on day 0 is only 0.0297 which is the lowest among all industries. Even the maximum abnormal return is only 0.1579, just above the overall average. Table 7 reveals that the cumulative abnormal return of energy firms is negative during the event window. The average cumulative abnormal return on day 5 is -0.0692 while the median is -0.0507. These results mean the acquisition brings bad valuation results to target energy firms in the short-term.

[Tables 6 and 7 here]

Table 8 indicates that mineral firms have a really good performance when acquisitions are announced. The average abnormal return is 0.15779 on day 0, which is above that of other industries. The dispersion is significantly large, the minimum value is -0.1625 and the maximum is 0.9419. When we take a look at table 9, the cumulative abnormal return of mineral firms is positive after the announcement day. On day 5, mineral firms can get average 0.1816 positive cumulative abnormal return whereas energy firms get -0.0693. Therefore, it is a wise choice to acquire technology and mineral firms in the short-term.

[Table 8 here]

In the literature review section the results of the literature were separated between studies concluding that M&A are mostly value destroying, and those concluding that they are value conserving/creating. The results of our study are more inline with the second group of studies, since we conclude that on average acquisitions of Canadian firms by emerging market firms tend to be value creating by generating an abnormal positive return.

VI. Conclusion

We conducted a short-term window event study to measure the performance of cross-border acquisitions in which Canadian firms are acquired by emerging market firms. After

analyzing the data from Innovation, Science and Economic Development Canada, we found that the number of acquisitions by emerging country acquirers increases rapidly after the 2008 financial crisis. Most bidders come from Asian countries/markets (Hong Kong, China, Korea and India) and Latin America (Mexico and Brazil). The industries of target firms become more diversified, and different countries focus on different sectors. The top buyers for Canadian energy firms are China, Hong Kong, Korea and Malaysia. Meanwhile, Indian acquirers prefer to purchase technology firms, especially research and information technology companies. Brazilian and Mexican firms tend to buy manufacturing firms while Chilean and Peruvian firms prefer natural resources.

Using the Market Model, we calculated the abnormal return and cumulative abnormal return of target firms. The results show that the abnormal return on event day (day 0) is about +10.3% and the cumulative abnormal return for 11 days (-5, +5) is about +10.55%. This indicates that in the short-term, the performance of Canadian firms which are acquired by emerging market firms is positive. The abnormal return increases significantly on the event day 0 and day 1 and it is back to normal after day 1. At the same time, the cumulative abnormal return also increases significantly on day 0 and stays positive till day 5. Then we analyzed results sorted by industry. Technology and mineral firms have significantly positive abnormal return on day 0 while energy firms only have a small abnormal return for the same time period. The cumulative abnormal return of technology firms is 0.1721 and mineral firms get positive 0.1817 during the event window. However, the cumulative abnormal return of energy firms is negative 0.0692 in the short-term. This suggests that it is better to acquire technology and mineral firms which have better performance in the short-term. Outside investors who want to benefit from merger related activities may also want to buy stocks in the technology and minerals sectors when a cross-border merger in those sectors is announced, and avoid (or sell short) energy stocks.

Our results support those studies in the literature that find mainly positive effects of cross-border M&A (e.g. Boateng et al., 2008; Gubbi et al., 2010; Du and Boateng, 2012; Kohli and Mann, 2012). On the other hand, they go against the findings of those studies having found mainly negative effects of M&A (e.g. Grubb and Lamb, 2000; Mantecon, 2009; Aybar and Ficici, 2006; Chen and Young, 2010; Bertrand and Betschinger, 2012; Andre et al., 2004). The literature is still far from reaching a consensus on this issue.

From a policy perspective, the results can be related to government restrictions on FDI. The Canadian government places certain restrictions on FDI, including M&A by foreign firms.

Acquisition of a Canadian firm by a foreign firm is more likely to generate review and require approval by the Canadian government when the Canadian government considers the investment injurious to national security, when the Canadian firm operates in the cultural business, when the foreign firm is from a non-WTO member, and/or when the Canadian firm is large enough (Investment Canada Act). Using the OECD FDI Restrictiveness Index, Canada comes up as more closed than the average OECD country, and is deemed less open than countries such as France, the U.S., and Belgium (Thomsen, 2013). Some of the major mergers blocked by the Canadian government in recent years include the acquisition of Progress Energy Resources Corp. by Malaysian state-owned Petronas, and the purchase of PotashCorp by Australian BHP Billiton. The positive abnormal returns found in this paper suggest that such mergers tend to make Canadian firms more competitive, and would justify a more liberal approach toward FDI in Canada. The government may be justified in being more open toward mergers in some sectors (like technology and minerals) than in other sectors (like energy).

It has been eight years since the financial crisis and developed countries are recovering from the Great Depression. According to the World Bank annual report, the number of M&A should synchronize with economic growth of the country. Therefore, in the next few years, there may not be significant increase in the number of acquirers from emerging countries because their economic growth rates are slowing down.

The firm performance studied in this paper is in short-term, specifically, it is 11 days, and the long-term performance is not discussed because of lack of related data. Although there is a positive performance in the short-term, some negative long-term performance has been reported in recent years; for example, the acquisition related to energy firms. Companies that look for oil and gas to extract tend to have more volatile life cycles than most value investors. In 2012, the Canadian oil company Nexen which was acquired by China National Offshore Oil Corporation (CNOOC), seems like the worst in a series of bets on oil and gas by China's state-owned firms. They bought tens of billions of dollars in assets world-wide when oil prices were high. However, many of those investments are worth far less, and the Chinese economy is slowing down and has slackened some energy demand. CNOOC reported nearly \$700 million in impairment losses for 2014 that it blamed on operations in North America and the North Sea. Since there are few papers studying the long-term performance of firms acquired by emerging market firms, more research is needed in the future on this topic.

The data used in this paper and most of the studies reviewed here pertain to acquisitions by emerging market firms. There are no clear results from the literature comparing returns to M&A for firms from developing and developed countries. Moreover, since our dataset is limited to acquisitions of Canadian firms by emerging market firms, we cannot compare the returns obtained here to those obtained by Canadian firms when they are bought by other firms from industrialized countries. These are important areas for future research.

Table 1. Corporations Returns Act (CRA) by Type of Control

Foreign controlled enterprises, \$ millions

| | 2010 | 2011 | 2012 | 2013 | 2014 |
|---------------------------------|-----------|-----------|-----------|-----------|-----------|
| Total | | | | | |
| Assets | 1,524,120 | 1,694,591 | 1,775,829 | 1,854,475 | 1,958,122 |
| Operating revenues | 933,284 | 1,003,394 | 1,069,894 | 1,075,323 | 1,120,569 |
| Operating profits | 66,621 | 78,875 | 71,133 | 72,702 | 78,306 |
| U.S. | | | | | |
| Assets | 789,880 | 833,077 | 876,588 | 922,665 | 969,481 |
| Operating revenues | 540,535 | 558,175 | 581,911 | 611,674 | 622,021 |
| Operating profits | 37,911 | 45,962 | 41,516 | 43,763 | 44,921 |
| E.U. | | | | | |
| Assets | 490,718 | 560,776 | 559,869 | 570,834 | 597,405 |
| Operating revenues | 245,488 | 288,815 | 303,360 | 280,196 | 295,586 |
| Operating profits | 17,631 | 19,877 | 18,636 | 18,443 | 18,912 |
| Other Emerging Countries | | | | | |
| Assets | 243,521 | 300,738 | 339,372 | 360,975 | 391,236 |
| Operating revenues | 147,262 | 156,404 | 184,623 | 183,454 | 202,962 |
| Operating profits | 11,080 | 13,036 | 10,980 | 10,496 | 14,473 |

Source: Statistics Canada, CANSIM, Table 179-0004 and Catalogue no. 61-220-X

Table 2. Abnormal Return

| | Average | Median | Minimum | Maximum | Stand dev |
|-------|----------|----------|----------|---------|-----------|
| Day5 | -0.01308 | -0.00402 | -0.18216 | 0.10367 | 0.04815 |
| Day4 | -0.01133 | -0.00700 | -0.13045 | 0.11075 | 0.04571 |
| Day3 | 0.00243 | -0.00892 | -0.11941 | 0.32712 | 0.08155 |
| Day2 | 0.00491 | -0.00051 | -0.35839 | 0.41525 | 0.10504 |
| Day1 | 0.02676 | 0.00312 | -0.37110 | 0.79583 | 0.19770 |
| Day0 | 0.10271 | 0.00810 | -0.16254 | 0.94194 | 0.20513 |
| Day-1 | -0.00774 | -0.00511 | -0.15362 | 0.22439 | 0.05864 |
| Day-2 | -0.01057 | -0.00322 | -0.17126 | 0.05548 | 0.03621 |
| Day-3 | 0.00488 | -0.00229 | -0.07365 | 0.18760 | 0.04562 |
| Day-4 | 0.00047 | -0.00398 | -0.15286 | 0.19640 | 0.05317 |
| Day-5 | 0.00158 | -0.00279 | -0.20783 | 0.15377 | 0.05339 |

Table 3. Cumulative Abnormal Return

| | Average | Median | Minimum | Maximum | Stand dev |
|-------|----------|----------|----------|---------|-----------|
| Day5 | 0.10551 | 0.01262 | -0.46374 | 1.62794 | 0.35883 |
| Day4 | 0.11859 | 0.01628 | -0.42728 | 1.63136 | 0.35405 |
| Day3 | 0.12992 | 0.02201 | -0.41811 | 1.58262 | 0.34628 |
| Day2 | 0.12299 | 0.02406 | -0.38121 | 1.69076 | 0.34569 |
| Day1 | 0.11809 | 0.03929 | -0.35086 | 1.27551 | 0.29781 |
| Day0 | 0.09133 | 0.02213 | -0.34414 | 0.92524 | 0.21927 |
| Day-1 | -0.01138 | -0.01532 | -0.18160 | 0.17738 | 0.06702 |
| Day-2 | -0.00364 | -0.01535 | -0.23859 | 0.14692 | 0.07071 |
| Day-3 | 0.00693 | -0.00670 | -0.23538 | 0.19231 | 0.08395 |
| Day-4 | 0.00205 | 0.00071 | -0.23122 | 0.18823 | 0.07107 |
| Day-5 | 0.00158 | -0.00279 | -0.20783 | 0.15377 | 0.05339 |

Table 4. Abnormal Return (Technology Firms)

| | Average | Median | Minimum | Maximum | Stand dev |
|-------|----------|----------|----------|---------|-----------|
| Day5 | -0.01685 | 0.00061 | -0.16385 | 0.01203 | 0.05226 |
| Day4 | -0.01706 | -0.01049 | -0.08994 | 0.04874 | 0.03879 |
| Day3 | -0.02990 | -0.01741 | -0.10814 | 0.00182 | 0.03381 |
| Day2 | 0.06273 | 0.01116 | -0.01353 | 0.41525 | 0.12690 |
| Day1 | 0.06806 | -0.01811 | -0.07498 | 0.79583 | 0.25884 |
| Day0 | 0.09786 | 0.00531 | -0.05248 | 0.41569 | 0.16126 |
| Day-1 | -0.01553 | -0.00597 | -0.10769 | 0.02838 | 0.03886 |
| Day-2 | -0.00582 | -0.00531 | -0.04806 | 0.02796 | 0.01850 |
| Day-3 | 0.01110 | 0.00985 | -0.01868 | 0.04597 | 0.01767 |
| Day-4 | -0.00641 | 0.00493 | -0.15286 | 0.04454 | 0.05673 |
| Day-5 | 0.02397 | 0.00166 | -0.00171 | 0.15377 | 0.04705 |

Table 5. Cumulative Abnormal Return (Technology Firms)

| | Average | Median | Minimum | Maximum | Stand dev |
|-------|---------|---------|----------|---------|-----------|
| Day5 | 0.17214 | 0.01369 | -0.29014 | 1.62794 | 0.52806 |
| Day4 | 0.18900 | 0.01971 | -0.30217 | 1.63136 | 0.52881 |
| Day3 | 0.20606 | 0.01983 | -0.21223 | 1.58262 | 0.50198 |
| Day2 | 0.23595 | 0.03725 | -0.15295 | 1.69076 | 0.52694 |
| Day1 | 0.17322 | 0.03929 | -0.13942 | 1.27551 | 0.40294 |
| Day0 | 0.10516 | 0.03837 | -0.08978 | 0.47967 | 0.16496 |
| Day-1 | 0.00731 | 0.01016 | -0.14767 | 0.11606 | 0.06992 |
| Day-2 | 0.02284 | 0.01580 | -0.10502 | 0.14692 | 0.06679 |
| Day-3 | 0.02866 | 0.04215 | -0.10561 | 0.15342 | 0.06547 |
| Day-4 | 0.01756 | 0.02095 | -0.15158 | 0.14135 | 0.07331 |
| Day-5 | 0.02397 | 0.00166 | -0.00171 | 0.15377 | 0.04705 |

Table 6. Abnormal Return (Energy Firms)

| | Average | Median | Minimum | Maximum | Stand dev |
|-------|----------|----------|----------|----------|-----------|
| Day5 | -0.01230 | -0.00530 | -0.07222 | 0.02552 | 0.02635 |
| Day4 | -0.00637 | -0.00676 | -0.04271 | 0.01192 | 0.01499 |
| Day3 | -0.03301 | -0.01367 | -0.11941 | -0.00550 | 0.03644 |
| Day2 | 0.00739 | 0.00230 | -0.07958 | 0.16160 | 0.05775 |
| Day1 | -0.05839 | -0.00364 | -0.37110 | 0.03634 | 0.13143 |
| Day0 | 0.02974 | 0.00257 | -0.05213 | 0.15791 | 0.06944 |
| Day-1 | 0.02748 | -0.00387 | -0.01058 | 0.22439 | 0.07228 |
| Day-2 | -0.00236 | -0.00309 | -0.01520 | 0.02459 | 0.01117 |
| Day-3 | 0.00410 | 0.00387 | -0.05265 | 0.05639 | 0.02612 |
| Day-4 | -0.01402 | -0.00583 | -0.05513 | 0.00542 | 0.01827 |
| Day-5 | -0.01276 | -0.00386 | -0.20783 | 0.04676 | 0.06768 |

Table 7. Cumulative Abnormal Return (Energy Firms)

| | Average | Median | Minimum | Maximum | Stand dev |
|-------|----------|----------|----------|---------|-----------|
| Day5 | -0.06928 | -0.05073 | -0.46374 | 0.29435 | 0.19877 |
| Day4 | -0.05698 | -0.07020 | -0.42728 | 0.29445 | 0.18491 |
| Day3 | -0.05061 | -0.07295 | -0.41811 | 0.30834 | 0.18255 |
| Day2 | -0.01881 | -0.02709 | -0.38121 | 0.31562 | 0.16359 |
| Day1 | -0.02621 | -0.02648 | -0.35086 | 0.31612 | 0.15925 |
| Day0 | 0.03219 | -0.00979 | -0.05609 | 0.33529 | 0.11489 |
| Day-1 | 0.00244 | -0.02493 | -0.06419 | 0.17738 | 0.06867 |
| Day-2 | -0.02504 | -0.02260 | -0.23859 | 0.08205 | 0.08372 |
| Day-3 | -0.02268 | -0.00986 | -0.23538 | 0.08252 | 0.08307 |
| Day-4 | -0.02678 | -0.00737 | -0.23122 | 0.05218 | 0.07393 |
| Day-5 | -0.01276 | -0.00386 | -0.20783 | 0.04676 | 0.06768 |

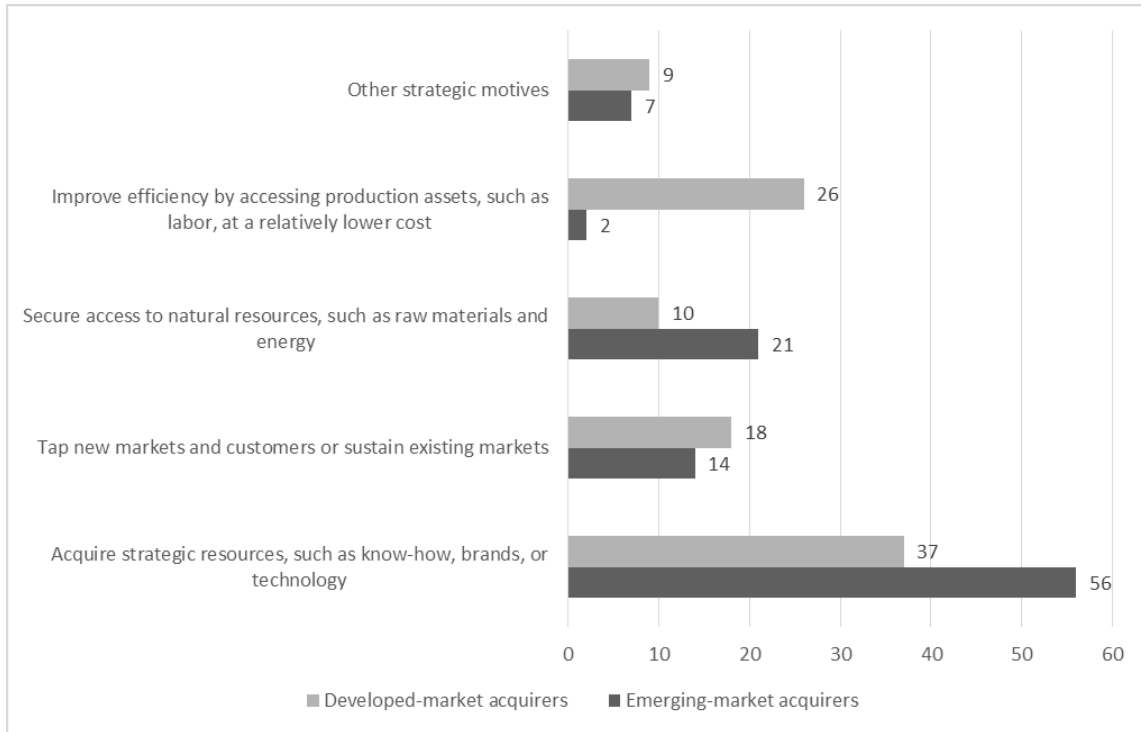
Table 8. Abnormal Return (Mineral Firms)

| | Average | Median | Minimum | Maximum | Stand dev |
|-------|----------|----------|----------|---------|-----------|
| Day5 | -0.00904 | -0.00544 | -0.18216 | 0.10367 | 0.05596 |
| Day4 | -0.01168 | -0.00400 | -0.13045 | 0.11075 | 0.06259 |
| Day3 | 0.04665 | -0.00161 | -0.09235 | 0.32712 | 0.10541 |
| Day2 | -0.03359 | -0.00453 | -0.35839 | 0.09658 | 0.10561 |
| Day1 | 0.06036 | 0.00853 | -0.12733 | 0.65127 | 0.18580 |
| Day0 | 0.15779 | 0.04751 | -0.16254 | 0.94194 | 0.27789 |
| Day-1 | -0.03090 | -0.00644 | -0.15362 | 0.00493 | 0.04837 |
| Day-2 | -0.01860 | -0.00287 | -0.17126 | 0.05548 | 0.05292 |
| Day-3 | 0.00385 | -0.00682 | -0.07365 | 0.18760 | 0.06660 |
| Day-4 | 0.01838 | 0.00019 | -0.06756 | 0.19640 | 0.06424 |
| Day-5 | -0.00156 | -0.00653 | -0.05271 | 0.13815 | 0.04412 |

Table 9. Cumulative Abnormal Return (Mineral Firms)

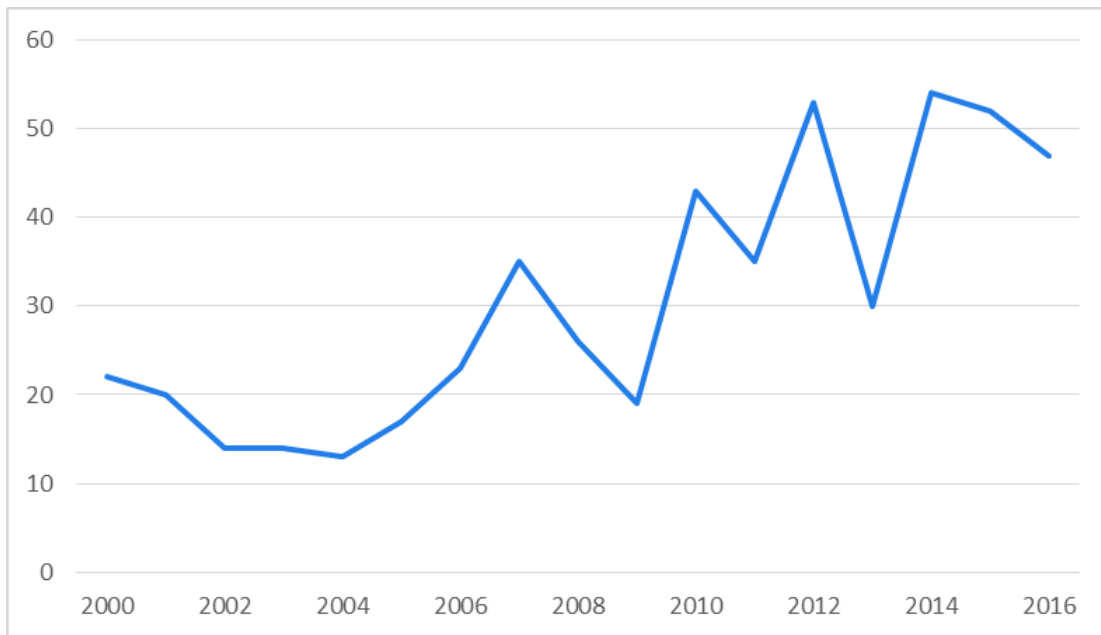
| | Average | Median | Minimum | Maximum | Stand dev |
|-------|----------|----------|----------|---------|-----------|
| Day5 | 0.18167 | 0.09269 | -0.08836 | 0.89531 | 0.27057 |
| Day4 | 0.19070 | 0.13947 | -0.08156 | 0.87930 | 0.26515 |
| Day3 | 0.20238 | 0.13078 | -0.08538 | 0.90084 | 0.27171 |
| Day2 | 0.15573 | 0.08963 | -0.15781 | 0.90453 | 0.27203 |
| Day1 | 0.18932 | 0.15580 | -0.15464 | 0.92812 | 0.27002 |
| Day0 | 0.12896 | 0.03140 | -0.34414 | 0.92524 | 0.29487 |
| Day-1 | -0.02883 | -0.01601 | -0.18160 | 0.05046 | 0.06061 |
| Day-2 | 0.00207 | -0.01522 | -0.11091 | 0.12103 | 0.05765 |
| Day-3 | 0.02067 | -0.00942 | -0.11764 | 0.19231 | 0.09216 |
| Day-4 | 0.01682 | 0.00103 | -0.06926 | 0.18823 | 0.06417 |
| Day-5 | -0.00156 | -0.00653 | -0.05271 | 0.13815 | 0.04412 |

Figure 1. Percentage of cross-border deal motivation in 1095 emerging market acquisitions, 2000-2013



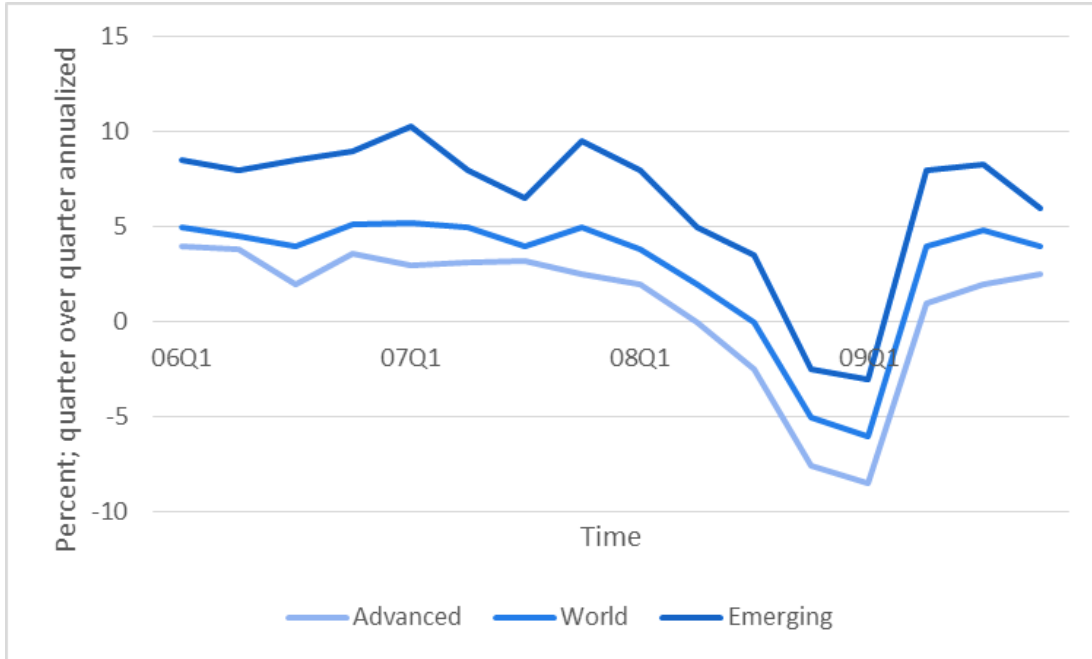
Source: McKinsey & Company, 2015

Figure 2. Number of M&A, 2000-2016



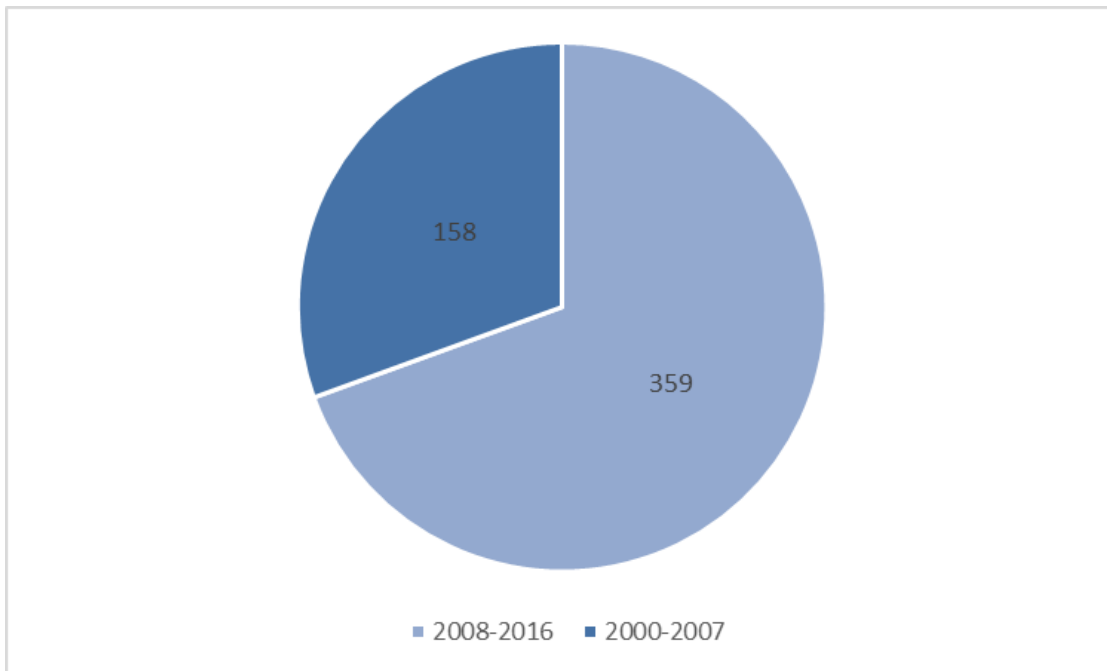
Source: Innovation, Science and Economic Development Canada

Figure 3. Growth in Advanced and Emerging Countries, 2006-Q1 to 2009-Q4



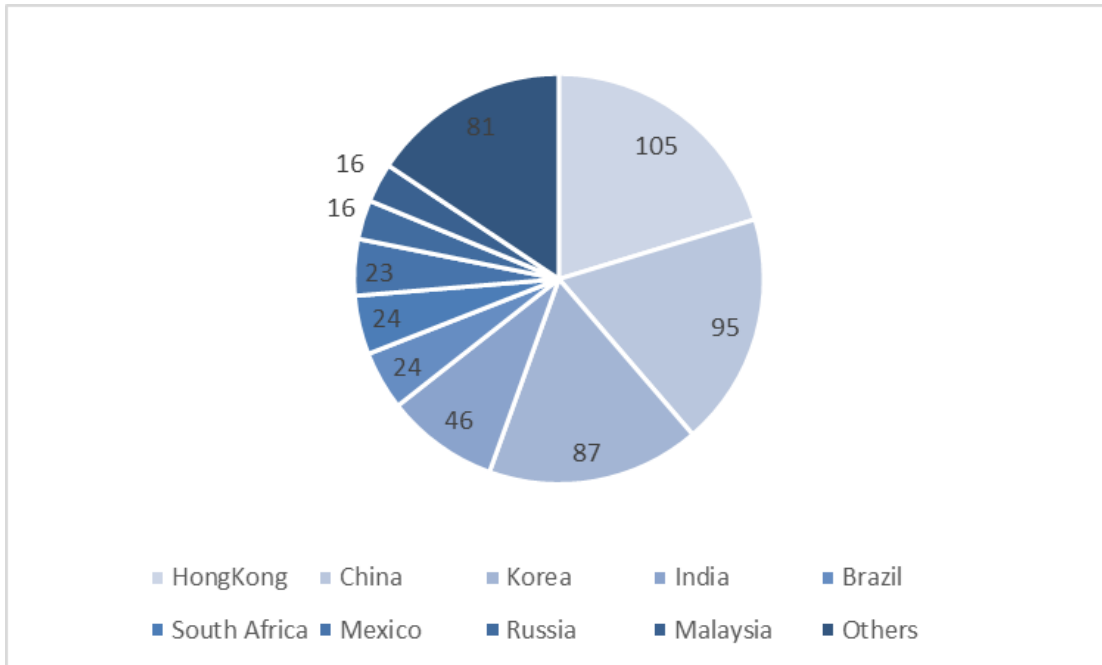
Sources: IMF, Global Data Source and IMF staff estimates

Figure 4. Number of M&A from 2000-2007, 2008-2016



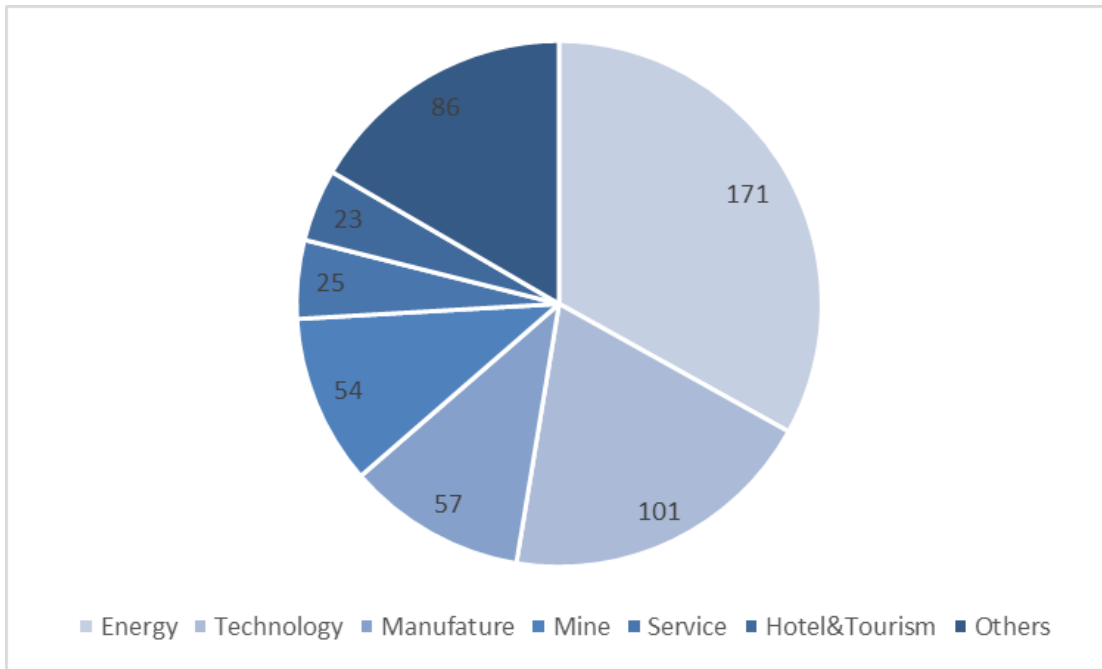
Source: Innovation, Science and Economic Development Canada

Figure 5. Number of M&A Sorted by Country



Source: Innovation, Science and Economic Development Canada

Figure 6. Number of M&A Sorted by Industry



Source: Innovation, Science and Economic Development Canada

Figure 7. Distribution of Abnormal Returns on Day 0

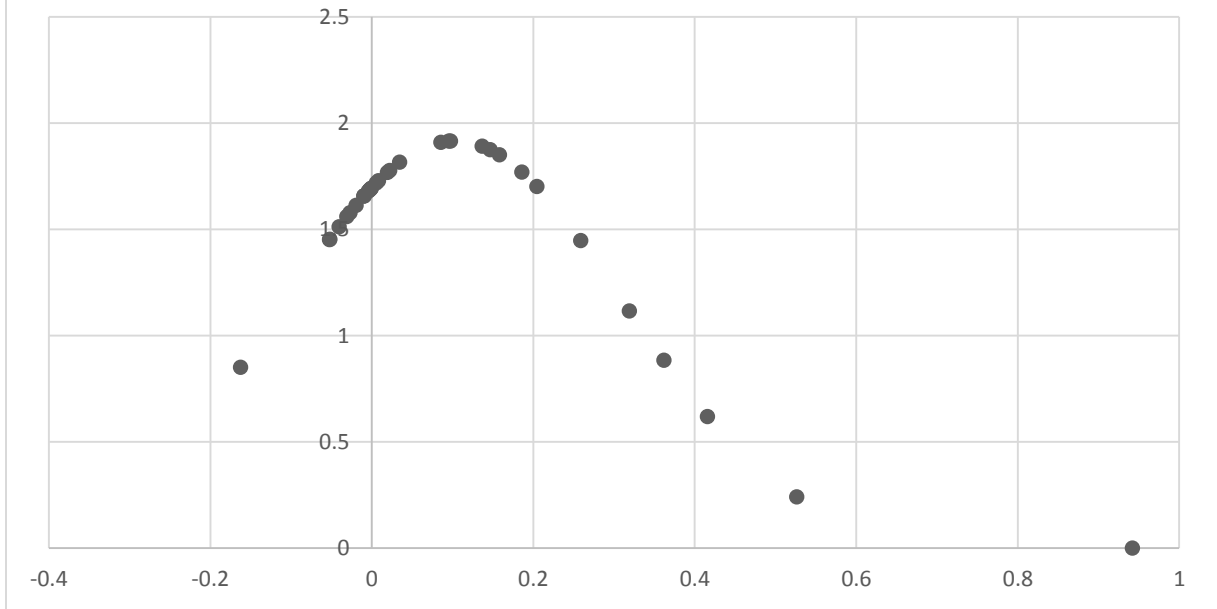
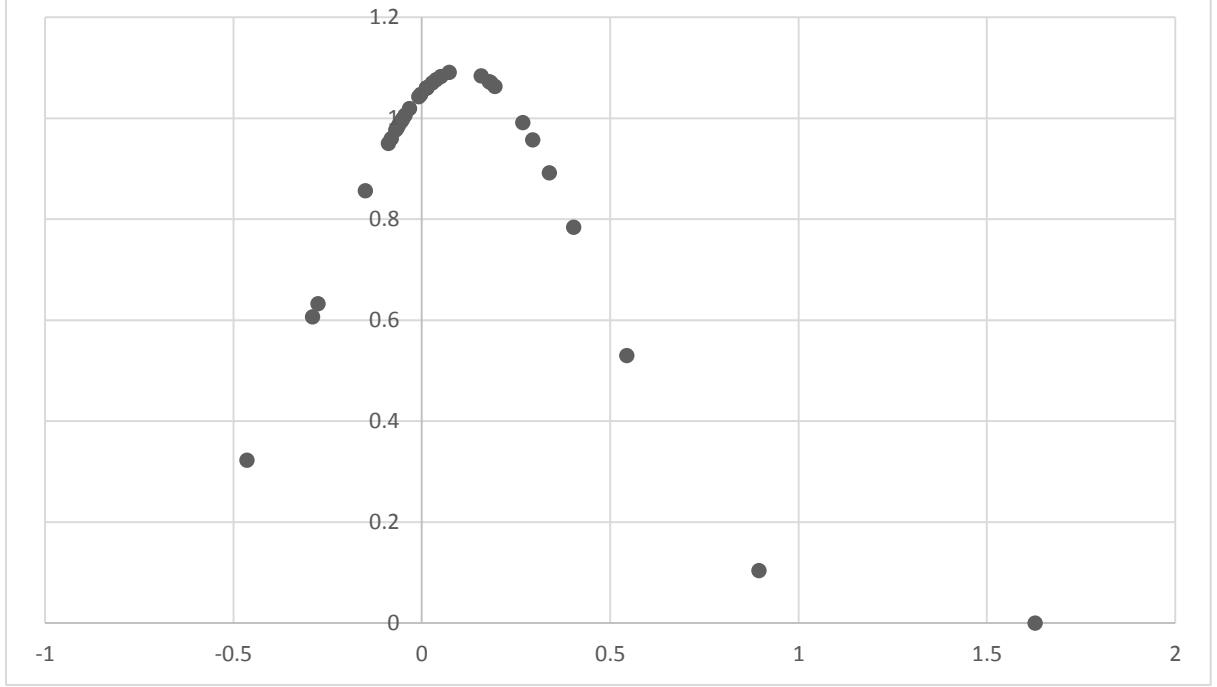
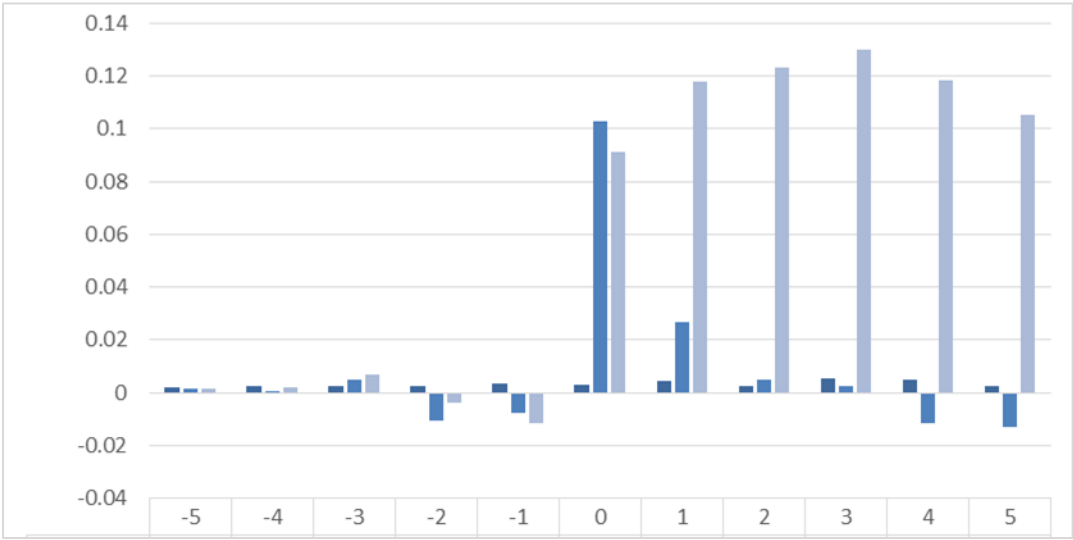


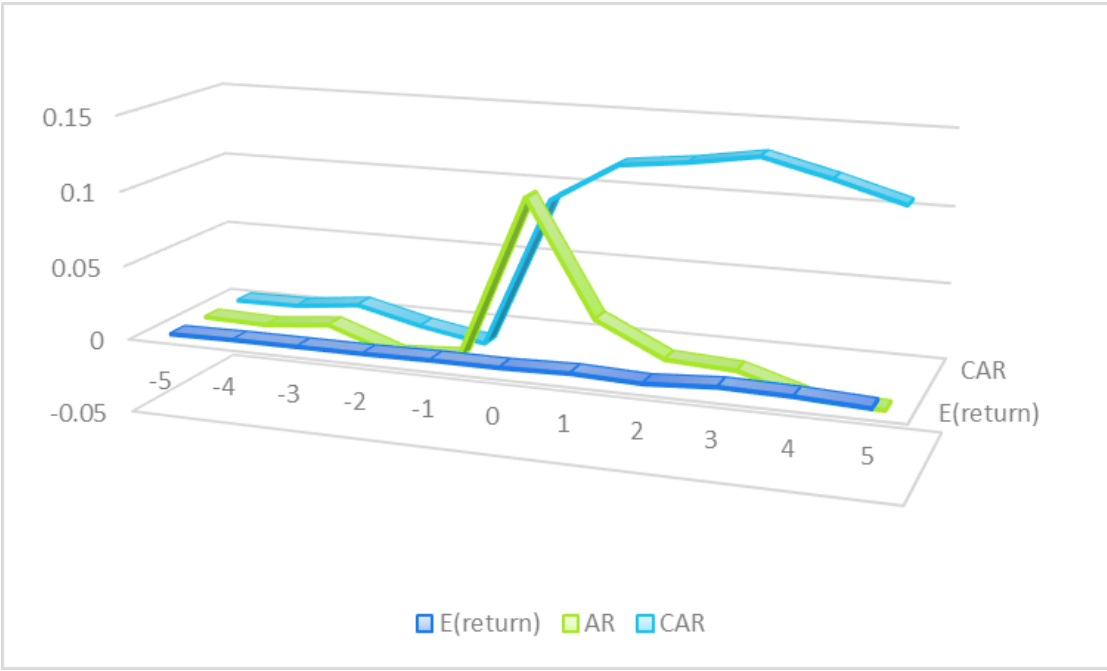
Figure 8. Distribution of Cumulative Abnormal Returns



**Figure 9. Expected Return, Abnormal Return and Cumulative Abnormal Return
During Event Window**



**Figure 10. Trend of Expected Return, Abnormal Return and Cumulative Abnormal Return
During Event Window**



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