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by

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Abstract

It is well-known that government plays an important role in the business activities of Chinese firms. Less certain is the effect this influence has on the wealth of those firms' shareholders. We contribute to the literature by analyzing stock market reactions to announcements by Chinese firms of overseas mergers and acquisitions (OMAs). OMAs are of particular interest because there can exist a conflict between the interests of the public sector in acquiring overseas assets, and the interests of the private sector in maximizing shareholder wealth. Our main data set consists of 213 observations of 157 OMA events that occurred between 1994-2009, using share market returns from the Shanghai, Shenzhen, Hong Kong, and U.S. markets. The aggregation of share price data across multiple markets, and the listing of firms in multiple exchanges, raise econometric issues for the standard event-study methodology. To address these, we use a new, feasible generalized least squares (GLS) procedure developed by Gu (2011). Based upon an analysis using both aggregated and disaggregated samples, and of daily and cumulative abnormal returns, we find consistent evidence that (i) Chinese OMAs have not lowered the wealth of shareholders of Chinese acquiring firms, and (ii) shareholders of Chinese acquiring firms have not fared worse under Go Global than before Go Global.

JEL Categories: G34, F21, O25, O53,

Keywords: Overseas Mergers and Acquisitions, Event study, Go Global

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I. INTRODUCTION

This paper addresses two questions about Chinese overseas mergers and acquisitions (OMAs). Chinese OMAs have increased dramatically in economic importance over the last 15 years. By one measure, Chinese OMA activity rose from US$307 million in 1994 to over US$26.5 billion in 2008 (United Nations, 2006, 2008). Whether these investments are good for Chinese shareholders is of particular interest given the influential role that government plays in the business activities of Chinese firms. There is concern that government decision-makers may have different goals than maximizing the wealth of firm shareholders. Accordingly, the first question we address is, "Has Chinese OMAs adversely affected shareholders of Chinese acquiring firms?"

The study of Chinese OMAs also provides an opportunity to evaluate China's "Go Global" policy. "Go Global" is the banner name of a national policy encouraging outward investment by Chinese firms. It was initially introduced in 1999, but has evolved over time to represent a conglomerate of individual policies. The second, related, question we address is, "Has China's Go Global policy sacrificed the interests of shareholders of Chinese acquiring firms in order to pursue national, strategic interests?"

There has been surprisingly little study in this area. Chen and Young (2010) use event-study methodology to examine 39 OMA deals and find a negative but statistically insignificant market response to announcements on the (*-1,0*) window. They also report a negative relationship between government ownership and cumulative abnormal returns.

Within the non-academic literature, Hemerling et al. (2006) use event-study methodology to study 16 OMA deals. They find that "relative total shareholder returns" around the

announcement day were positive in 56% of deals.[1] Luedi (2008) analyzes 56 deals over the period 1995-2007 and reports that Chinese acquirers "overpaid" for foreign assets in 55 percent of deals, as measured by the change in share prices around the announcement day.[2] Other studies summarize various features of Chinese OMAs, such as location of target firms, characteristics of target industries, and motivations underlying foreign acquisitions (e.g. Liao, 2006; Deng, 2007, 2009; Rui and Yip, 2008).[3] However, these rely largely on summaries of aggregate activity, and case studies of a few firms without any formal analysis.

Our analysis also uses event-study methodology. It provides the most comprehensive analysis of Chinese OMAs to date. Our main sample consists of 213 observations of 157 deals made over the years 1994-2009. We are able to construct this relatively large sample by using price data from firms that list on multiple exchanges. This raises econometric issues. To address these, we employ a new, feasible, generalized least squares (GLS) estimator developed by Gu (2011).

The study proceeds as follows: Section II briefly discusses related literature. Section III presents three testable hypotheses. Section IV describes our data. Section V explains the event-study methodology we employ in our analysis. Section VI reports and discusses our results. Section VII summarizes and concludes.

II. RELATED LITERATURE

Three strands of literature are especially relevant to our study: (i) results from previous studies measuring the performance record of OMAs by acquiring firms in other emerging

[1] "Relative total shareholder return" is defined as "Total shareholder return" minus "Return of stock market index of the local market" as measured during the (*-5,5*) window.
[2] Luedi (2008) defines "overpaid" as a negative share price movement in the (*-2,2*) window.
[3] Chi, Sun, and Young (2010) study announcement effects of Chinese acquiring firms, but include domestic as well as overseas M&As.

markets; (ii) the relationship between government and business in China, particularly with respect to overseas investments by Chinese firms; and (iii) descriptions of China's "Go Global" policy.

Previous studies have come to conflicting conclusions about the response of share markets towards acquiring firms announcing OMA deals in other emerging markets. Gubbi et al. (2010) evaluate 425 cross-border acquisitions by Indian firms during 2000-2007 and report positive and significant cumulative abnormal returns of 2.58% over the eleven-day window around the announcement date. Aybar and Ficici (2009) examine 433 cross-border M&As associated with 58 large multinational firms during the period 1991-2004. They report significant, negative cumulative abnormal returns of -0.09% on the (*-1,1*) window. Kim (2003) analyzes 270 events of overseas foreign investments (which include OMAs) by Korean firms from 1991-1997. He reports a lagged, positive market reaction on the day after announcement of 0.26%, which is significant at the 10 (but not 5) percent level. However, when he restricts analysis to the 30 largest *chaebol*-affiliates, he finds cross-border investments do not increase shareholder wealth.

Dunning's (1980) OLI paradigm is widely influential as a model for understanding the determinants of foreign direct investments. Dunning and Lundan (2008) note that the motivations of acquiring firms from emerging markets may differ from those in developed markets. In particular, government is likely to play a more prominent role in OMA decisions. OMAs are frequently seen as strategic instruments to further government's efforts to secure energy and other natural resources, and to appropriate new technologies.

With respect to China, a number of authors have noted that no discussion of Chinese OMAs is complete without recognition of the special role of the Chinese government (Ping,

2007; Huaichuan and George, 2008; and Morck, Yeung, and Zhao, 2008). The relationship between Chinese government and business enterprises is complicated. Government can be involved directly -- via direct ownership; or indirectly -- via government ownership of shares. Further, different levels of government may be involved; with municipal, provincial, and national governments engaged individually, or operating together as joint ventures. This makes the distinction between government- and private-ownership blurry at best (Antkiewicz and Whalley, 2007). Liu (2005) estimates that 61.4 percent of Chinese listed companies are under local government control, 15.3 percent are under central government control, and 3.4 percent are cooperatively controlled by different levels of government. Only 12.8 percent are identified as privately controlled.[4] Similarly, Morck, Yeung, and Zhao (2008) find that 65.9 percent of shares of firms listing on the two mainland exchanges are owned by some level of Chinese government or related government agencies.

The implications of government control are manifold. Government can influence the appointment of senior company executives, exert direct control over the kinds of business activities undertaken and the manner in which they are implemented, and subsidize specific business activities either directly or indirectly via low- or no-interest loans from the Chinese Central Bank. A relatively large literature explores whether government control has beneficial or detrimental effects on Chinese firm performance, with evidence mixed depending on the particular performance metric employed (Xu and Wang, 1999; Qi, Wu, and Zhang, 2000; Sun, Tong, and Tong, 2002; Hovey, Li, and Naughton, 2003; Wei, Xie, and Zhang, 2005; Gunasekarage, Hess, and Hu, 2007). For our purposes, the salient issue is whether government control causes Chinese firms to pursue OMAs at the expense of decreasing shareholder wealth.

[4] Ownership details for the remaining 7 percent were insufficient to identify the degree of government control.

The Chinese government's promotion of overseas investment came into force with the unveiling of its "Go Out Policy" or "Going Global Strategy" -- henceforth "Go Global" – in 1999.[5] As a national policy, it was elevated in importance when it was adopted as part of the 10th Five Year Plan (2001-2005).[6] The nature of this promotion has taken numerous forms, and continues to evolve to the present day.[7]

One major thrust of the Go Global policy has been the loosening of controls on outward investment by Chinese firms. Outward investment requires approval by China's Ministry of Commerce, with concomitant foreign currency approval from the State Administration of Foreign Exchange (SAFE). In 2002, SAFE authorization was decentralized from the central agency to selected local authorities for projects of US$1 million or less, with an overall investment cap of US$200 million. Subsequent decentralization continued in 2005 such that foreign exchange authorization was extended to all provinces, municipalities, and autonomous regions; the local limit was increased to US$10 million; and the overall investment quota was expanded to US$5 billion. In June 2006, the overall investment quota was abolished. Meanwhile, authorization from the Ministry of Commerce was decentralized to local commercial administrations in October 2004, except for large state-owned enterprises.

A second thrust has involved direct support from the Ministry of Commerce. Some of this has consisted of informational support and bureaucratic expertise in navigating foreign investment rules. In July 2004, the Ministry of Commerce along with the Ministry of Foreign Affairs provided a "guidance list" of industries that should be preferred for outward investment. Additional support has come in the form of preferential treatment of outward-investing Chinese firms in terms of direct grants, tax benefits, low- or no-interest loans, access to foreign exchange,

[5] See "http://en.wikipedia.org/wiki/Go_Global."
[6] See "http://www.gov.cn/node_11140/2006-03/15/content_227686.htm" (in Chinese).
[7] The subsequent discussion of the Go Global policy relies heavily on Hagiwara (2006).

etc. This culminated in November of 2004 with the creation of a formal loan support system under authority of the National Development and Reform Commission and the Export-Import Bank of China.

This brief summary documents some of the changes and expansions that have occurred in China's Go Global policy since its inception in 1999. The policy is associated with at least three main motivations. First, it provides a means of reducing appreciation pressures on China's currency, the Renminbi. Second, it addresses concerns that there be sufficient resources to sustain China's growth over the middle- to long-term. And third, it presents an opportunity to modernize Chinese business via the appropriation of foreign technology and the assimilation of modern business practices. To the extent that government involvement in firms' OMA decisions is prompted by these motivations, it sets up a potential conflict between the pursuit of national goals and the maximization of shareholder wealth.

III. TESTABLE HYPOTHESES

Our empirical analysis investigates the behavior of abnormal returns around OMA announcement dates. As noted above, government, especially local government (Liu, 2005), is heavily involved in the business affairs of Chinese firms. If the goals of government officials conflict with those of shareholders, then OMAs may negatively impact shareholders of Chinese acquiring firms. If that were the case, we would expect share markets to respond negatively to the announcement of an OMA by a Chinese acquiring firm. This leads to the first testable hypothesis:

H1: If OMAs are expected to adversely affect shareholders of Chinese acquiring firms, share prices of Chinese acquiring firms will react negatively upon their announcement. Therefore, mean abnormal returns should be negative around the announcement date. Let β be the mean of the distribution of abnormal returns. The corresponding null hypothesis is $\beta \geq 0$.

The second question we examine is how China's Go Global policy affects the shareholders of Chinese firms that acquire or merge with overseas firms. As discussed above, China's Go Global policy has several goals, all of which are directed towards national strategic interests. If OMA activity under Go Global is redirected by government officials away from wealth maximizing activities, shareholders of Chinese acquiring firms may find themselves adversely impacted. This leads to the second testable hypothesis:

H2a: If OMAs during the Go Global period are perceived as pursuing national goals at the expense of shareholder wealth, share prices of Chinese acquiring firms will react negatively upon their announcement. Therefore, mean abnormal returns during the Go Global period should be lower than mean abnormal returns before Go Global. Let β_1 be the mean of the distribution of abnormal returns before Go Global, and let β_2 be the mean of the distribution of abnormal returns after Go Global. The corresponding null hypothesis is $\beta_2 - \beta_1 \geq 0$.

Relatedly, if Chinese firms, either through the direct or indirect influence of government officials, are using OMAs to promote national strategic interests at the expense of shareholders' interests, we would expect that Chinese acquiring firms would pay more for target firms under Go Global than before Go Global. Thus, share prices of target firms should respond positively to OMA announcements. This leads to our final testable hypothesis:

H2b: Mean abnormal returns *for target firms* around the announcement date should be higher during the Go Global period than before Go Global. Let β_3 be the mean of the distribution of abnormal returns for target firms before Go Global, and let β_4 be the mean of the distribution of abnormal returns after Go Global. The corresponding null hypothesis is $\beta_4 - \beta_3 \leq 0$.

While hypothesis H1 and H2a/H2b are related, they differ in an important respect. Previous literature suggests that OMA decisions are greatly influenced by government decision-makers. However, the nature of that influence may differ depending on whether local or national interests predominate. In general, government control of Chinese firms consists of control by

local governments (Liu, 2005). However, Go Global is a national policy, promulgated by central government. This potentially changes the relative costs and benefits associated with Chinese OMAs. Thus, while OMA activity is likely influenced by government officials both before and after Go Global, differences between the interests of local and national governments may generate different outcomes between the two periods.

IV. DATA DESCRIPTION

Our main sample consists of 213 observations of price reactions associated with 157 OMA events that were announced between January 1, 1994 and December 31, 2009.[8] Two characteristics are particularly noteworthy about this sample.

Most of the Chinese acquiring firms list on share markets outside of China. If we restrict our analysis to Chinese mainland markets (Shanghai and Shenzhen), or to a single overseas market (e.g. NYSE), our sample would be insufficiently representative of all OMAs. Accordingly, we include share price data from multiple markets: the Shanghai and Shenzhen, the SEHK (Hong Kong), and the NYSE, AMEX and NASDAQ (US) exchanges.

In addition, many of the acquiring firms in our sample list on more than one market. 46 of the 157 OMA events included in this sample involve Chinese firms that simultaneously list in either two (36 events) or three (10 events) markets. Previous studies have tended to handle multiple listing by choosing listings from only one market. The most common approach is to use returns from each firm's home market (Aktas, de Bodt, and Roll, 2004; Bailey, Karolyi and Salva, 2006; Doidge, 2004; Faccio, McConnell, and Stolin, 2006; Kim, 2003; Wang and

[8] Even accounting for the fact that our study includes (i) more years and (ii) listings in U.S. markets, we still identify many more OMA events than Chen and Young (2009). One possible explanation for this discrepancy is that Chen and Young (2009, page 8) hand-collected their data through news announcements published by the China Mergers and Acquisitions Association (CMAA). In contrast, we identified our OMAs through the Thomson Reuters SDC Platinum database.

Boateng, 2007). Others use returns from the firm's most liquid markets (Aybar and Ficici, 2009; Baruch, Karolyi, and Lemmon, 2007; Campbell et al., 2010. On the one hand, omitting data from some share markets runs the risk of throwing away potentially valuable information. On the other hand, including price reactions from multiple-listed shares invalidates the assumption of independence across observations that is commonly invoked in event-study methodology. We discuss this in greater detail below.

To be included in the sample, daily share price information needs to be included in the Thomson Reuters database Datastream, with at least 136 days of continuous return data before, and 11 days on or after, the announcement date. No more than 50% of the daily price series can consist of zero returns.[9] We include OMAs from all industries except finance.[10]

TABLES 1 through 3 summarize a number of features of the corresponding sample. TABLE 1 reports year and value data for Chinese OMA deals. There is a positive spike in both the number and the size of deals beginning in 2002, and this increase continues through to the end of the sample period. Approximately four-fifths of the deals, accounting for over 95% of the total value of transactions, occur in the latter half of the sample period (2002-2009). As noted above, the Go Global policy was initiated in 1999 and expanded in subsequent years. The higher level of Chinese OMA activity occurring in 2002 and subsequent years is consistent with Go Global serving as a catalyst for Chinese OMA activity.

A potential complication in attributing the post-2001 spike in OMA deals to Go Global is the fact that China became a member of the World Trade Organization (WTO) in 2001. However, these need not be viewed as competing determinants. The expansion of trade made

[9] A 70% criterion would produce 217 observations. A 30% criterion produces 211 observations. We chose the middle value of 50%, which gave us 213 observations.
[10] Financial firms are subject to special accounting and regulatory requirements, making them difficult to compare with other firms.

possible by China's entrance into the WTO was likely spurred by the Go Global policy to promote investments abroad.

TABLE 2 reports the geographical distribution of the associated target firms. Most target firms are located in developed countries. Over a third of deals involve target firms located in Hong Kong. The U.S. and Australia rank second and third as locations for target firms. The remainder of the deals are spread widely across the six continents, with Asia a common target region. An interesting fact not apparent from TABLE 2 is that a significant drop-off in Hong Kong targets occurs with the onset of Go Global: Hong Kong firms are roughly half as likely to be chosen as targets in 2002-2009 as compared to 1994-2001.[11]

TABLE 3 reports the distribution across industries of target firms in the 1994-2001 and 2002-2009 time periods. The telecommunications, electronics, and software industries are at or near the top in terms of targets for Chinese acquiring firms. Other industries lag substantially behind, with the exception of energy and natural resources, which enjoyed a substantial boost during the Go Global years. M&A activity involving target firms in the energy and natural resource industries comprised 32.5% of all deals during the Go Global years, compared to only 3.2% during 1994-2001. This is consistent with Go Global's motivation of assuring sufficient resource availability to sustain China's economic growth into the future.

Our analysis also utilizes a second sample of observations on Chinese OMA target firms. Unfortunately, most of the target firms associated with our sample of acquiring firms are not listed in Datastream. As a result, this second sample consists of all non-Chinese target firms listed in Datastream that were acquired by Chinese firms over the period 1994-2009, even if Datastream did not list the associated acquiring firm. A total of 159 target firms satisfied the

[11] Hagiwara (2006) suggests that a substantial portion of Hong Kong OMA activity is in fact "roundtrip" investment that detours outside the mainland to take advantage of various tax, trade, and regulatory incentives.

data requirements identified above (136 days of continuous return data before the announcement date, 11 days return data on or afterwards, no more than 50% zero return days, and no finance firms).

V. METHODOLOGY

We employ event-study methodology to evaluate the effect of Chinese OMAs on shareholder wealth. A noteworthy feature of our analysis is that we apply a new, generalized least squares (GLS) procedure for event studies with multi-listed observations (Gu, 2011).

End-of-day, daily (adjusted) stock prices (P_{it}) for each OMA event/firm i at time t for the 147-day data period (*-136,11*) were obtained from Datastream. Daily returns (R_{it}) were computed by taking the log of stock prices (Strong 1992):

$$(1) \qquad R_{it} = ln\left(\frac{P_{it}}{P_{i,t-1}}\right), \; i=1,2,...,N; \;\; t = -135 \; ... \; ,10 \; .$$

Data during the estimation window were used to estimate the following "market model" specification (Brown and Warner, 1985; Strong, 1992) for each event/firm i:

$$(2) \qquad R_{it} = \alpha_i + \beta_i R_{mt} + error_{it} \; , \; t=-135, \; ... \; ,-11;$$

where N is the total number of firms included in the sample and R_{mt} is the return of the local market index at time t.[12] Expected returns during the testing period ($\hat{R}_{it}$) were calculated by

$$(3) \qquad \hat{R}_{it} = \hat{\alpha}_i + \hat{\beta}_i R_{mt} \; , \;\; i=1,2,...,N; \; t=-10,-9,...9,10;$$

where $\hat{\alpha}_i$ and $\hat{\beta}_i$ are the estimated values of α_i and β_i from Equation (2). Abnormal returns for the testing period are calculated as the difference between actual returns during the testing period and their forecasted values (based on the coefficients estimated during the estimation period),

[12] The local market indices selected for the Shanghai, Shenzhen, Hong Kong, and U.S. markets were, respectively, Shanghai A Shares, Shenzhen A Shares, the Hang-Seng index and the S&P 500 Composite index.

(4) $AR_{it} = R_{it} - \hat{R}_{it}$, $i=1,2,...,N$; $t=-10,-9,...,9,10$.

Let the DGP associated with individual AR_{it} observations for a given test day t be represented by

(5) $\boldsymbol{y} = \boldsymbol{x}\beta + \boldsymbol{\varepsilon}$;

where $\boldsymbol{y}$ is an $N\times 1$ vector of abnormal returns, AR_{it}, $i = 1,2,...,N$; $\boldsymbol{x}$ is an $N\times 1$ vector of ones; β is a scalar representing the mean of the distribution of abnormal returns; and $\boldsymbol{\varepsilon}$ is an $N\times 1$ vector of error terms. If the error terms are normally, independently distributed and homoscedastic, OLS estimation of Equation (5) will produce efficient estimates of β, the mean value of abnormal returns. However, the error terms in our sample are likely to be characterized by at least two types of nonspherical behaviors. As a result, this study employs GLS estimation of Equation (5) to obtain efficient estimates.

The first type of nonspherical behavior is heteroscedasticity, $Var(\varepsilon_{it}) = \sigma_i^2$, $i=1,2,...,N$. This reflects the fact that some share prices are inherently more variable than others. This problem is well-recognized. A common approach to this problem is to "standardize" the abnormal returns. If individual error terms are normally and independently distributed, then

$$\boldsymbol{\varepsilon} \sim N\left(\boldsymbol{0}_N, \boldsymbol{\Omega} = \begin{bmatrix} \sigma_1^2 & 0 & \cdots & 0 \\ 0 & \sigma_2^2 & \cdots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 0 & 0 & \cdots & \sigma_N^2 \end{bmatrix}\right),$$ where $\boldsymbol{0}_N$ is an $N\times 1$ vector of zeroes and $\boldsymbol{\Omega}$ is $N\times N$.

Given the error variance-covariance matrix above, the OLS estimate of β in Equation (5) is inefficient. The source of this inefficiency lies in the fact that OLS gives equal weight to every observation. The solution consists of assigning different weights to the individual

observations. The estimation procedure that assigns an "efficient" set of weights is called Generalized Least Squares (GLS).

Define a "weighting matrix" $\boldsymbol{P}$, where $\boldsymbol{P}$ is an $N \times N$, symmetric, invertible matrix such that $\boldsymbol{P}'\boldsymbol{P} = \boldsymbol{\Omega}^{-1}$. Given $\boldsymbol{\Omega}$ above, it is easily confirmed that

$$\boldsymbol{P} = \boldsymbol{P}' = \begin{bmatrix} \frac{1}{\sigma_1} & 0 & \cdots & 0 \\ 0 & \frac{1}{\sigma_2} & \cdots & 0 \\ \vdots & \vdots & \ddots & \vdots \\ 0 & 0 & \cdots & \frac{1}{\sigma_N} \end{bmatrix}.$$

Assuming the σ_i^2, $i=1,2,...,N$ are known, the GLS estimator of β is given by

(6) $\hat{\beta}_{GLS1} = (\boldsymbol{x}'\boldsymbol{\Omega}^{-1}\boldsymbol{x})^{-1}\boldsymbol{x}'\boldsymbol{\Omega}^{-1}\boldsymbol{y}$,

(7) $Var\left(\hat{\beta}_{GLS1}\right) = (\boldsymbol{x}'\boldsymbol{\Omega}^{-1}\boldsymbol{x})^{-1}$, and

(8) $s.e.\left(\hat{\beta}_{GLS1}\right) = \sqrt{(\boldsymbol{x}'\boldsymbol{\Omega}^{-1}\boldsymbol{x})^{-1}}$.

Alternatively, define $\tilde{\boldsymbol{x}} = \boldsymbol{P}\boldsymbol{x}$ and $\tilde{\boldsymbol{y}} = \boldsymbol{P}\boldsymbol{y}$. Then

(6') $\hat{\beta}_{GLS1} = (\tilde{\boldsymbol{x}}'\tilde{\boldsymbol{x}})^{-1}\tilde{\boldsymbol{x}}'\tilde{\boldsymbol{y}}$,

(7') $Var\left(\hat{\beta}_{GLS1}\right) = (\tilde{\boldsymbol{x}}'\tilde{\boldsymbol{x}})^{-1}$, and

(8') $s.e.\left(\hat{\beta}_{GLS}\right) = \sqrt{(\tilde{\boldsymbol{x}}'\tilde{\boldsymbol{x}})^{-1}}$.

In other words, $\hat{\beta}_{GLS1}$ is identical to OLS applied to $\tilde{\boldsymbol{y}} = \tilde{\boldsymbol{x}}\beta + \tilde{\boldsymbol{\varepsilon}}$, where $\tilde{\boldsymbol{x}}$, $\tilde{\boldsymbol{y}}$, and $\tilde{\boldsymbol{\varepsilon}}$ are standardized as described above. Note in particular that $\tilde{\boldsymbol{y}}$ is an $N \times 1$ vector of <u>standardized</u> abnormal returns, $\tilde{\boldsymbol{y}} = \begin{bmatrix} AR_{1t} / \sigma_{1t} \\ AR_{2t} / \sigma_{2t} \\ \vdots \\ AR_{Nt} / \sigma_{Nt} \end{bmatrix}$.

As σ_{it} is unknown, we follow standard practice (Patell, 1976; Mikkelson and Partsch, 1986; Doukas and Travlos, 1988) and estimate σ_{it} by

$$(9) \qquad \hat{\sigma}_{it} = \left[\hat{\sigma}_i^2 \left[1 + \frac{1}{L} + \frac{\left(R_{mt} - \overline{R}_m\right)}{\sum_{s=1}^{L} \left(R_{ms} - \overline{R}_m\right)^2} \right] \right]^{1/2},$$

where $\hat{\sigma}_i^2$ is the estimated variance of the error term in the market model regression (Equation 2), L is the number of observations in the estimation period (in our case, $L=125$), R_{mt} (R_{ms}) is the return on the respective market portfolio at time t (s), and $\overline{R}_m$ is the average return on the respective market portfolio over the estimation period.

The GLS estimator, $\hat{\beta}_{GLS1}$, is appropriate when dealing with observations from a single market, or when combining observations from different markets as long as there is a single observation per OMA event. However, when OMA events are multiple-listed, $\hat{\beta}_{GLS1}$ will be inefficient because it does not adjust for correlations across observations. We therefore use a more general GLS procedure to handle this second type of nonspherical behavior.

Define $\tilde{y}_{ijt} = \left(\frac{AR_{ijt}}{\sigma_{ijt}} \right)$ as the standardized, abnormal return for OMA event/firm *i,* listed in stock exchange *j*, at time *t*. Note that stocks need not be, and are likely not, listed on all exchanges. Thus some stocks may be listed on only one exchange, some on only two, and so on. Let us stack the data such that – for a given time period *t* – the observations are grouped first by event *i*, then by stock exchange *j*.

For example suppose we have 7 observations and three possible stock exchanges. Let the first three observations belong to the same multi-listed firm/M&A event, with listings on all three exchanges. The next two observations belong to another multi-listed firm/M&A event, with listings on the first and third exchanges. The last two observations belong to separate firms/M&A events that are single-listed on the second and third exchanges, respectively. Under this scenario, $\tilde{\boldsymbol{y}}$ looks like this:

$$\tilde{\boldsymbol{y}} = \begin{bmatrix} AR_{11t} / \sigma_{11t} \\ AR_{12t} / \sigma_{12t} \\ AR_{13t} / \sigma_{13t} \\ AR_{21t} / \sigma_{21t} \\ AR_{23t} / \sigma_{23t} \\ AR_{32t} / \sigma_{32t} \\ AR_{43t} / \sigma_{43t} \end{bmatrix}$$

Picking up where we left off before, the DGP for the <u>standardized</u> abnormal returns, $\tilde{\boldsymbol{y}}$, is $\tilde{\boldsymbol{y}} = \tilde{\boldsymbol{x}}\beta + \tilde{\boldsymbol{\varepsilon}}$. Note that $Var(\tilde{\varepsilon}_{ijt}) = 1$ for all *i, j,* and *t*. $\tilde{\boldsymbol{\varepsilon}} \sim N\left(\boldsymbol{0}_{\boldsymbol{N}}, \tilde{\boldsymbol{\Omega}}\right)$, where $\tilde{\boldsymbol{\Omega}}$ is $N \times N$,

$$(10)\quad \tilde{\boldsymbol{\Omega}} = \begin{bmatrix} 1 & \rho_{11,12} & \rho_{11,13} & 0 & 0 & 0 & 0 \\ \rho_{12,11} & 1 & \rho_{12,13} & 0 & 0 & 0 & 0 \\ \rho_{13,11} & \rho_{13,12} & 1 & 0 & 0 & 0 & 0 \\ 0 & 0 & 0 & 1 & \rho_{21,23} & 0 & 0 \\ 0 & 0 & 0 & \rho_{23,21} & 1 & 0 & 0 \\ 0 & 0 & 0 & 0 & 0 & 1 & 0 \\ 0 & 0 & 0 & 0 & 0 & 0 & 1 \end{bmatrix}.$$

The off-diagonal terms in $\tilde{\boldsymbol{\Omega}}$ are now nonzero due to multiple-listing. $\rho_{ij,ik}$ represents the correlation of standardized abnormal returns between multi-listed pairs, AR_{ijt}/σ_{ij} and AR_{ikt}/σ_{ik}, during the estimation period.

Similar to before, define $\tilde{\boldsymbol{P}}$ (where $\tilde{\boldsymbol{P}}$ is $N \times N$) such that $\tilde{\boldsymbol{P}}'\tilde{\boldsymbol{P}} = \tilde{\boldsymbol{\Omega}}^{-1}$. Assuming the $\rho_{ij,ik}$ $i=1,2,...,N$ are known, the GLS estimator of β is now

$$(11)\quad \hat{\beta}_{GLS2} = (\tilde{\boldsymbol{x}}'\tilde{\boldsymbol{\Omega}}^{-1}\tilde{\boldsymbol{x}})^{-1}\tilde{\boldsymbol{x}}'\tilde{\boldsymbol{\Omega}}^{-1}\tilde{\boldsymbol{y}},$$

$$(12)\quad Var\left(\hat{\beta}_{GLS2}\right) = (\tilde{\boldsymbol{x}}'\tilde{\boldsymbol{\Omega}}^{-1}\tilde{\boldsymbol{x}})^{-1}, \text{ and}$$

$$(13)\quad s.e.\left(\hat{\beta}_{GLS2}\right) = \sqrt{(\tilde{\boldsymbol{x}}'\tilde{\boldsymbol{\Omega}}^{-1}\tilde{\boldsymbol{x}})^{-1}}.$$

Gu (2011) develops a procedure for estimating the $\rho_{ij,ik}$'s when they are unknown. The extension to multiple time periods and the calculation of cumulative abnormal returns is straightforward.

VI. RESULTS

Do OMAs diminish wealth for shareholders of Chinese acquiring firms? The preceding analysis presents three hypotheses for testing. We first investigate the overall impact of OMAs on the shareholders of Chinese acquiring firms. TABLES 4 and 5 report estimates of mean abnormal returns for the main sample of 213 observations of Chinese acquiring firms. TABLE 4 reports

results for the full sample, aggregated across all markets. TABLE 5 disaggregates the results across the three distinct sets of markets: (i) Mainland (Shanghai and Shenzhen), (ii) Hong Kong (SEHK), and (iii) U.S. (NYSE, AMEX, and NASDAQ).

Each table reports both (i) daily abnormal returns across the 21 days of the testing window (*-10,10*) and (ii) cumulative abnormal returns for different windows within the testing window. With respect to the latter, we subdivide the testing window into 5 separate windows to capture (i) leading effects far from the announcement day (*-10,-6*); (ii) leading effects close to the announcement day (*-5,-1*), (iii) announcement day effects (*-1,1*); (iv) lagging effects close to the announcement day (*1,5*); and (v) lagging effects far from the announcement day (*6,10*). In addition, different windows are formed around the announcement day: (*-1,1*), (*-2,2*), (*-3,3*), (*-5,5*) and (*-10,10*). A benefit of looking at cumulative abnormal returns across different windows is that price reactions that get allocated to different trading days due to time zone differences between markets are likely to get collected within a longer window.

The first hypothesis states that OMAs adversely affect shareholders of Chinese acquiring firms, perhaps because political influences divert firms from maximizing shareholder wealth. The associated (one-sided) null hypothesis is that the mean of the distribution of abnormal returns is not negative. Columns (1) and (2) of Panel A in TABLE 4 report estimates of daily Mean Abnormal Returns and corresponding Z-statistics for the full, aggregated sample. For example, mean abnormal returns for *Days -1, 0,* and *1* are estimated to be 0.29%, 0.11%, and 0.25%. Column (3) reports the *p*-values associated with a test of the one-sided null hypothesis, $H_0 : \beta \geq 0$.

We find no evidence to reject the null hypothesis either on the announcement day (*Day 0*), or one day before or after the announcement (*Day -1, Day 1*). If anything, there is some

evidence to indicate that there is a significant positive price reaction on *Days -1* and *1*. Looking across all 21 days of the testing window (*-10,10*), we find two days for which the null hypothesis is rejected: *Days -6* and *3*. However, this is only one more rejection than would be expected by random chance given a significance level of 0.05.

Panel B reports the results of hypothesis tests for various windows of cumulative returns during the test period. Once again, the *p*-values correspond to the one-sided null hypothesis: $H_0 : \beta \geq 0$. We consistently fail to reject the null hypothesis that cumulative abnormal returns are not negative. For example, we estimate mean (daily) abnormal returns of 0.22%, 0.05%, and 0.02% over the (*-1,1*), (*-5,5*) and (*-10,10*) windows. The associated *p*-values for tests of the null hypothesis are *0.996*, *0.884*, and *0.779*. Taken together, Panels A and B of TABLE 4 provide no evidence that OMAs harm shareholders of Chinese acquiring firms.

TABLE 5 repeats the analysis for each of the three sets of exchange markets (Mainland, Hong Kong, and U.S.). There are two reasons for dissagregating results across markets. Firstly, information about acquirers and targets may be geographically dispersed. Investors in Mainland markets may be in a better position to judge the suitability of a match from the acquiring firm's perspective, while traders in the Hong Kong and U.S. markets may be better informed about the suitability of the target. Informational frictions (e.g. due to different languages, time zones, etc.) and trading limitations (e.g. restrictions on foreigners to trade in Mainland markets) may inhibit the ability of traders to arbitrage information across markets.

Secondly, the respective sets of markets have different opening and closing times. An announcement may occur while some exchanges are open and others are closed. This situation is complicated by the fact that, though we know the announcement day, we are unsure exactly when, and -- more importantly -- where an announcement was made. For example, a Chinese

acquiring firm whose primary listing is in the NYSE may announce an OMA in New York, or via its headquarters in China. Depending on the time of day the announcement was made, the announcement could fall on different trading days in the U.S. and China. For this reason, daily returns for "Day 0" in a given market may not contain the relevant price reaction.

The results from the aggregated sample of TABLE 4 find reaffirmation in the dissagregated samples of TABLE 5. We fail to reject the one-sided null hypothesis on any of the days around the announcement (*Days -1, 0, 1*). The null hypothesis is rejected a total of 6 times across the 63 individual hypothesis tests. For example, the null hypothesis is rejected in the Mainland markets on *Days 2* and *10*, and in the Hong Kong share market on *Days -6* and *3*. There is no logical explanation for this particular pattern of results. The 6 rejections are three more than what would be expected from 63 hypothesis tests given a significance level of 0.05.

Our explanation for this small rate of over-rejection has to do with the way feasible GLS calculates standard errors. GLS assumes that the elements of the error variance-covariance matrix are known. Feasible GLS replaces these known elements with estimates; however, no adjustment is made to the standard errors to accommodate this additional degree of uncertainty. As a result, feasible GLS will downwardly bias estimates of standard errors.[13] This inflates Z-statistics and increases rejection rates. The random pattern of rejections of the null hypothesis, along with the relatively small rate of over-rejections, lead us to conclude that there is no compelling evidence in the individual market results to reject the null hypothesis.

This is confirmed in the cumulative results reported in Panel B of TABLE 5. The one-sided null hypothesis that mean cumulative abnormal returns are not negative fails to be rejected for the (*-1,1*), (*-5,5*) and (*-10,10*) windows for each of the three sets of markets. The only

[13] The size of the bias can be quite substantial when there are many elements in the error variance-covariance matrix (Beck and Katz, 1995; Reed and Webb, 2010; Reed and Ye, 2011).

significant cumulative abnormal return is for the window (*-5,-1*) in the U.S. markets. Again, we can attribute this singular result to random chance. In conclusion, based upon results from both the aggregated and disaggregated samples, and from daily and cumulative abnormal returns, we find no evidence to conclude that OMAs have lowered the wealth of shareholders of Chinese acquiring firms.

Does Go Global cause Chinese acquiring firms to sacrifice shareholders interests in pursuit of national strategic interests? The second and third hypotheses compare stock market reactions to announcements of OMAs before and after Go Global. If OMAs during the Go Global period are perceived as pursuing national goals at the expense of shareholder wealth, share prices of Chinese acquiring firms will respond negatively to their announcement. Therefore, mean abnormal returns during the Go Global period should be lower than mean abnormal returns before Go Global. Let β_1 be the mean of the distribution of abnormal returns before Go Global, and let β_2 be the mean of the distribution of abnormal returns after Go Global. The corresponding null hypothesis is $\beta_2 - \beta_1 \geq 0$.[14]

Panel A of TABLE 6 reports cumulative abnormal results for Chinese acquirers before and after Go Global. For each of the three windows – (*-1,1*), (*-5,5*), and (*-10,10*) – and for each of the respective samples (Aggregated, Mainland, Hong Kong, and U.S.), the null hypothesis fails to be rejected. Thus there is no evidence, based on the price reactions for shares of acquiring firms, that Go Global caused firms to be less concerned with maximizing shareholder wealth.

[14] GLS estimation for this section used Equations (11) – (13) except that the ***x*** matrix consisted of two columns: a column of ones, and a second column consisting of a dummy variable indicating that the OMA event occurred during the Go Global period.

Alternatively, if Chinese firms under Go Global are especially motivated by political considerations to undertake OMAs, then they may pay more for target firms after Go Global than before. Let β_3 be the mean of the distribution of abnormal returns for target firms before Go Global, and β_4 be the mean of the distribution of abnormal returns after Go Global. The corresponding one-sided null hypothesis is $\beta_4 - \beta_3 \leq 0$. Panel B performs a similar analysis to Panel A, except it does so for target firms around the announcement dates.

For the aggregate sample of 159 target firm observations, we find strong evidence that cumulative abnormal returns are larger during Go Global. The null hypothesis is decisively rejected for each of the three windows: (*-1,1*), (*-5,5*), and (*-10,10*). However, this result is not robust across all markets. For example, while cumulative abnormal returns are higher in the Hong Kong share market during Go Global, this is not true for the U.S. markets (but note that the U.S. sample size is quite small).

We emphasize that most of the firms in the target sample are new observations. Only 15 are target matches of the 157 acquiring firms represented in Panel A. This stems from the fact that most of the target firms for the Panel A acquirers are not listed in Datastream. Similarly, most of the acquirers associated with the target firms in Panel B are also not listed in Datastream.

One explanation for the seemingly incongruent results of Panels A and B is that, under Go Global, firms became more proficient at finding wealth-creating OMAs, but that most of the associated increase was appropriated by shareholders of target firms. If that is true, then only in the opportunity cost sense can Go Global be claimed to have adversely impacted shareholders of acquiring firms. This claim, however, is suspect, as many of these deals might never have gone forward in the absence of Go Global.

VII. SUMMARY

This study empirically addresses two questions:

1. "Has Chinese overseas mergers and acquisitions (OMAs) adversely affected shareholders of Chinese acquiring firms?"

2. "Has China's Go Global policy sacrificed the interests of shareholders of Chinese acquiring firms in order to pursue national, strategic interests?"

The questions are related because it is well-known that the Chinese government plays a very influential role in the affairs of Chinese businesses (Liu, 2005; Antkiewicz and Whalley, 2007; Ping, 2007; Huaichuan and George, 2008; and Morck, Yeung, and Zhao, 2008). An obvious question is whether this influence has been detrimental to the interests of shareholders. While a substantial literature examines the effect of government control on the performance of Chinese firms (Xu and Wang, 1999; Qi, Wu, and Zhang, 2000; Sun, Tong, and Tong, 2002; Hovey, Li, and Naughton, 2003; Wei, Xie, and Zhang, 2005; Gunasekarage, Hess, and Hu, 2007), there have been very few studies that specifically study OMAs. Accordingly, one of the contributions of this study is that provides additional evidence of the impact of government on the performance of Chinese firms. The value of this contribution is enhanced by the fact that the current literature is still much unsettled with respect to a conclusion.

The questions are different because they address different levels of engagement by the Chinese government. Most of the direct influence of government is mediated by local governments (Liu, 2005). In contrast, Go Global is a central government initiative that represents a substantial shift in policy over time. Its aims are explicitly national in scope. Local governments and the central government may have divergent agendas. While we are unable to identify the individual influences of each, the second question allows us to focus more directly on the influence of the central government, at least as it is represented in the Go Global policy.

To address these questions, we use two samples. The main sample is a sample of 213 observations on 157 OMA events that took place between January 1, 1994 and December 31, 2009. We aggregate stock price data for Chinese acquiring firms across three distinct sets of markets: (i) the Chinese Mainland share markets (Shanghai and Shenzhen), (ii) the Hong Kong Stock Exchange, and (iii) the three major U.S. share markets (NYSE, AMEX, and NASDAQ). A second sample consists of analogous data for overseas targets of Chinese OMAs.

A benefit of our samples is that they are substantially larger than previous studies. We have been able to achieve this larger sample size by aggregating data from different share markets, and by utilizing share price data from multiple-listings from the same firm. This raises econometric difficulties. To address these, we use a newly developed generalized least squares (GLS) procedure from Gu (2011).

Based upon an analysis using both aggregated and disaggregated samples, and of daily and cumulative abnormal returns, we find consistent evidence that (i) Chinese OMAs have not lowered the wealth of shareholders of Chinese acquiring firms, and (ii) shareholders of Chinese acquiring firms have not fared worse under Go Global than before Go Global. Our results suggest that whatever interests motivate policy-makers in the Chinese public sector, these do not appear to have been exercised at the expense of shareholders of Chinese acquiring firms.

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TABLE 1
Distribution of Chinese OMA Deals by Year

Year	*Number of Deals*	*Deal Value Available*	*Total Value of Deals ($mil)*	*Average Value of Deals ($mil)*
1994	1	1	98.5	98.5
1995	1	1	1.3	1.3
1996	2	2	482.1	241.0
1997	4	3	360.6	120.2
1998	7	6	262.5	43.7
1999	4	3	45.9	15.3
2000	6	4	75.5	18.9
2001	6	4	50.5	12.6
2002	11	10	2,098.9	209.9
2003	9	7	2,048.6	292.7
2004	16	9	2,367.5	263.1
2005	8	6	4,243.6	707.3
2006	12	9	10,282.2	1,142.5
2007	21	15	2,437.8	162.5
2008	20	12	2,346.3	195.5
2009	29	21	5,794.6	275.9
Total	157	113	32,996.3	292.0

TABLE 2
Distribution of Chinese OMA Deals by Region and Country

Country	*Number of Deals*	*Deal Value Available*	*Total Value of Deals ($mil)*	*Average Value of Deals ($mil)*
Developed nations				
Hong Kong[1]	58	45	5,174.6	115.0
United States	17	10	2,476.8	247.7
Australia	12	10	3,690.4	369.0
Canada	6	6	2,553.2	425.5
Japan	4	3	169.9	56.6
United Kingdom[2]	4	3	6,886.5	2,295.5
Germany	3	0	0.0	0.0
Italy	3	1	0.1	0.1
Netherlands	2	1	148.5	148.5
France	1	1	8.7	8.7
New Zealand	1	1	26.2	26.2
Sum	*111*	*81*	*21,134.9*	*260.9*
Asia				
Singapore	6	4	1,879.9	470.0
Indonesia	5	4	1,129.5	282.4
South Korea	3	3	473.6	157.9
Azerbaijan	2	2	70.0	35.0
India	2	2	9.5	4.8
Kazakhstan	2	1	200.0	200.0
Pakistan	2	2	744.0	372.0
Russian Fed	2	2	3,600.0	1,800.0
Taiwan	2	1	2.2	2.2
Malaysia	1	1	11.5	11.5
Mongolia	1	0	0.0	0.0
Philippines	1	1	70.0	70.0
Thailand	1	1	0.6	0.6
Vietnam	1	0	0.0	0.0
Sum	*31*	*24*	*8,190.7*	*341.3*

Country	*Number of Deals*	*Deal Value Available*	*Total Value of Deals ($mil)*	*Average Value of Deals ($mil)*
Africa				
Nigeria	2	1	2,692.0	2,692.0
Zambia	2	0	0.0	0.0
Chad	1	1	202.5	202.5
Tunisia	1	0	0.0	0.0
Sum	*6*	*2*	*2,894.5*	*1,447.3*
South America				
British Virgin	3	2	33.2	16.6
Brazil	2	2	520.0	260.0
Peru	2	1	200.0	200.0
Cayman Islands	1	1	23.0	23.0
Mexico	1	0	0.0	0.0
Sum	*9*	*6*	*776.2*	*129.4*
Total	157	113	32,996.32	292.00

TABLE 3
Distribution of Chinese OMA Deals by Target Industries (1994-2001 versus 2002-2009)

1994-2001			***2002-2009***		
Target Industry Sector	***Number (Percent) of Deals***	***Average Value of Deals ($mil)***	***Target Industry Sector***	***Number (Percent) of Deals***	***Average Value of Deals ($mil)***
Telecommunication and Electronics, Prepackaged Software[a]	11 (35.5%)	16.0	Energy and Natural Resources	41 (32.5%)	670.4
Miscellaneous Manufacturing Products[b]	5 (16.1%)	10.3	Telecommunication and Electronics, Prepackaged Software	34 (27.0%)	204.7
Electric, Gas, and Water Distribution, Construction	4 (12.9%)	13.3	Miscellaneous Manufacturing Products	15 (11.9%)	43.3
Transportation[c]	4 (12.9%)	81.6	Wholesale, Retail, Trade	12 (9.5%)	69.2
Miscellaneous Business Services[d]	3 (9.7%)	279.2	Miscellaneous Business Services	8 (6.3%)	202.7
Wholesale, Retail, Trade[e]	2 (6.5%)	9.2	Transportation	7 (5.6%)	35.2
Energy and Natural Resources[f]	1 (3.2%)	n.a.	Electric, Gas, and Water Distribution, Construction	5 (4.0%)	680.2
Chemicals and Drugs[g]	1 (3.2%)	1.3	Chemicals and Drugs	4 (3.2%)	46.0

[a] "Telecommunication and Electronics, Prepackaged Software Industry" consists of the following SDC categories: "Computer and Office Equipment;" "Telecommunications;" "Electronic and Electrical Equipment;" "Communications Equipment;" and "Prepackaged Software."

[b] "Miscellaneous Manufacturing Products" consists of the following SDC categories: "Measuring, Medical, Photo Eqipment;" "Clocks;" "Food and Kindred Products;" "Stone, Clay, Glass, and Concrete Products;" "Textile and Apparel Products;" "Wood Products, Furniture, and Fixtures;" "Machinery;" "Miscellaneous Manufacturing;" and "Transportation Equipment."

[c] "Transportation" consists of the following SDC categories: "Transportation and Shipping (except Air);" and "Air Transportation and Shipping."

[d] "Miscellaneous Business Services" consists of the following SDC categories: "Business Services;" "Health Services;" "Investment and Commodity Firms, Dealers, Exchanges;" and "Radio and Television Broadcasting Stations."

[e] "Wholesale, Retail, Trade" consists of the following SDC categories: "Wholesale Trade-Nondurable Goods;" "Wholesale Trade-Durable Goods;" and "Miscellaneous Retail Trade."

[f] "Energy and Natural Resources" consists of the following SDC categories: "Oil and Gas;" "Petroleum Refining;" "Mining;" "Metal and Metal Products;" and "Agriculture, Forestry, and Fishing."

[g] "Chemicals and Drugs" consists of the following SDC categories: "Drugs;" and "Chemicals and Allied Products."

TABLE 4
Abnormal Returns for Acquiring Firms: Aggregated Exchanges

A. Daily Responses

Day	*Mean Abnormal Return (1)*	*Z (2)*	*p-value* (3)*
-10	0.0022	1.53	0.937
-9	0.0023	1.59	0.944
-8	-0.0005	-0.34	0.367
-7	-0.0001	-0.08	0.467
-6	-0.0026	-1.81	0.036
-5	0.0009	0.66	0.746
-4	0.0016	1.12	0.869
-3	0.0010	0.66	0.747
-2	-0.0012	-0.80	0.212
-1	0.0029	2.01	0.978
0	0.0011	0.77	0.780
1	0.0025	1.72	0.958
2	-0.0012	-0.82	0.205
3	-0.0024	-1.65	0.049
4	-0.0011	-0.78	0.219
5	0.0015	1.06	0.856
6	-0.0012	-0.82	0.205
7	0.0010	0.69	0.755
8	0.0009	0.62	0.731
9	-0.0011	-0.80	0.212
10	-0.0014	-1.00	0.159

* The *p*-value corresponds to a test of the one-sided hypothesis that mean abnormal return is greater than or equal to zero (i.e., is not negative).

B. Cumulative Responses

Days	*Mean Abnormal Return (1)*	*Z (2)*	*p-value* (3)*
(-10,-6)	0.0003	0.40	0.654
(-5,-1)	0.0011	1.64	0.949
(-1,1)	0.0022	2.61	0.996
(1,5)	-0.0001	-0.21	0.416
(6,10)	-0.0004	-0.59	0.278
(-2,2)	0.0008	1.29	0.902
(-3,3)	0.0004	0.72	0.763
(-5,5)	0.0005	1.19	0.884
(-10,10)	0.0002	0.77	0.779

* The *p*-value corresponds to a test of the one-sided hypothesis that mean cumulative abnormal returns are greater than or equal to zero (i.e., are not negative).

TABLE 5
Abnormal Returns for Acquiring Firms: Individual Exchanges

A. Daily Responses

Day	*Mainland*			*HK*			*US*		
	Mean Abnormal Return (1)	*Z (2)*	*p-value* (3)*	*Mean Abnormal Return (4)*	*Z (5)*	*p-value* (6)*	*Mean Abnormal Return (7)*	*Z (8)*	*p-value* (9)*
-10	0.0009	0.40	0.656	0.0025	1.16	0.877	0.0024	0.80	0.789
-9	0.0022	0.99	0.838	0.0021	1.00	0.841	0.0019	0.63	0.735
-8	0.0020	0.91	0.819	-0.0030	-1.41	0.080	0.0006	0.18	0.573
-7	-0.0002	-0.11	0.458	0.0002	0.10	0.539	-0.0071	-2.35	0.010
-6	-0.0010	-0.44	0.330	-0.0040	-1.85	0.032	-0.0017	-0.56	0.287
-5	0.0014	0.64	0.741	-0.0009	-0.44	0.331	0.0020	0.68	0.751
-4	0.0030	1.37	0.916	0.0027	1.24	0.894	-0.0047	-1.56	0.060
-3	-0.0001	-0.06	0.474	0.0028	1.29	0.902	-0.0035	-1.15	0.125
-2	0.0014	0.64	0.739	-0.0013	-0.62	0.267	-0.0052	-1.73	0.042
-1	0.0062	2.82	0.998	0.0006	0.29	0.613	-0.0023	-0.76	0.223
0	0.0019	0.86	0.805	0.0022	1.03	0.848	-0.0019	-0.62	0.267
1	-0.0019	-0.85	0.197	0.0044	2.05	0.980	0.0101	3.34	1.000
2	-0.0050	-2.29	0.011	0.0032	1.48	0.931	-0.0031	-1.02	0.153
3	0.0005	0.22	0.587	-0.0052	-2.43	0.008	-0.0002	-0.05	0.480
4	-0.0031	-1.41	0.080	0.0014	0.63	0.735	-0.0007	-0.23	0.408

Day	*Mainland*			*HK*			*US*		
	Mean Abnormal Return (1)	*Z (2)*	*p-value* (3)*	*Mean Abnormal Return (4)*	*Z (5)*	*p-value* (6)*	*Mean Abnormal Return (7)*	*Z (8)*	*p-value* (9)*
5	0.0020	0.94	0.827	0.0001	0.07	0.526	0.0047	1.55	0.939
6	0.0006	0.27	0.608	-0.0017	-0.77	0.220	0.0007	0.22	0.588
7	0.0019	0.86	0.804	-0.0002	-0.09	0.465	-0.0008	-0.27	0.392
8	0.0026	1.21	0.888	-0.0016	-0.76	0.223	0.0039	1.29	0.903
9	-0.0034	-1.56	0.059	0.0018	0.84	0.800	-0.0031	-1.01	0.156
10	-0.0039	-1.77	0.038	0.0006	0.27	0.605	-0.0016	-0.54	0.294
N	***64***			***76***			***73***		

* The *p*-value corresponds to a test of the one-sided hypothesis that mean abnormal return is greater than or equal to zero (i.e., is not negative).

B. Cumulative Responses

Day	*Mainland*			*HK*			*US*		
	Mean Abnormal Return (1)	*Z (2)*	*p-value* (3)*	*Mean Abnormal Return (4)*	*Z (5)*	*p-value* (6)*	*Mean Abnormal Return (7)*	*Z (8)*	*p-value* (9)*
(-10,-6)	0.0008	0.78	0.784	-0.0004	-0.45	0.328	-0.0008	-0.58	0.280
(-5,-1)	0.0024	2.42	0.993	0.0008	0.79	0.785	-0.0027	-2.02	0.022
(-1,1)	0.0021	1.64	0.950	0.0024	1.94	0.974	0.0020	1.13	0.870
(1,5)	-0.0015	-1.52	0.065	0.0008	0.80	0.789	0.0022	1.60	0.945
(6,10)	-0.0004	-0.44	0.329	-0.0002	-0.23	0.409	-0.0002	-0.14	0.445
(-2,2)	0.0005	0.53	0.702	0.0018	1.88	0.970	-0.0005	-0.36	0.361
(-3,3)	0.0004	0.50	0.693	0.0009	1.16	0.878	-0.0009	-0.76	0.225
(-5,5)	0.0006	0.87	0.808	0.0009	1.38	0.917	-0.0004	-0.47	0.319
(-10,10)	0.0004	0.79	0.787	0.0003	0.67	0.748	-0.0005	-0.69	0.244

* The *p*-value corresponds to a test of the one-sided hypothesis that mean cumulative abnormal returns are greater than or equal to zero (i.e., are not negative).

TABLE 6
Analysis of the Effect of "Go Global" on Acquirers and Targets

A. Acquirers

Variables	*Aggregated (1)*	*Mainland (2)*	*Hong Kong (3)*	*U.S. (4)*
(-1,1) Window				
Mean Abnormal Returns Before Go Global ($\hat{\beta}_1$)	0.001	-0.005	0.010	0.019
Mean Abnormal Returns After Go Global ($\hat{\beta}_2$)	0.002	0.003	0.002	0.001
Test of H_0: $\beta_2 - \beta_1 \geq 0$	Z = 1.886 *p* = 0.971	Z = 2.938 *p* = 0.999	Z = -0.213 *p* = 0.416	Z = -1.631 *p* = 0.052
(-5,5) Window				
Mean Abnormal Returns Before Go Global ($\hat{\beta}_1$)	0.001	0.001	0.002	0.002
Mean Abnormal Returns After Go Global ($\hat{\beta}_2$)	-0.001	0.000	-0.001	-0.003
Test of H_0: $\beta_2 - \beta_1 \geq 0$	Z = 0.316 *p* = 0.624	Z = 0.271 *p* = 0.607	Z = 0.598 *p* = 0.725	Z = -0.934 *p* = 0.175
(-10,10) Window				
Mean Abnormal Returns Before Go Global ($\hat{\beta}_1$)	0.000	-0.001	0.001	0.003
Mean Abnormal Returns After Go Global ($\hat{\beta}_2$)	0.000	0.001	-0.001	-0.004
Test of H_0: $\beta_2 - \beta_1 \geq 0$	Z = 0.618 *p* = 0.732	Z = 1.210 *p* = 0.887	Z = 0.133 *p* = 0.553	Z = -1.624 *p* = 0.052
Observations	*213*	*64*	*76*	*73*

B. Targets

Variables	*Aggregated (1)*	*Hong Kong (2)*	*U.S. (3)*
(-1,1) Window			
Mean Abnormal Returns Before Go Global ($\hat{\beta}_3$)	0.011	0.010	0.014
Mean Abnormal Returns After Go Global ($\hat{\beta}_4$)	0.023	0.018	0.020
Test of H_0: $\beta_4 - \beta_3 \leq 0$	Z = 7.087 p = 0.000	Z = 2.911 p = 0.002	Z = 1.476 p = 0.070
(-5,5) Window			
Mean Abnormal Returns Before Go Global ($\hat{\beta}_3$)	0.008	0.012	0.001
Mean Abnormal Returns After Go Global ($\hat{\beta}_4$)	0.009	0.011	-0.002
Test of H_0: $\beta_4 - \beta_3 \leq 0$	Z = 4.173 p = 0.000	Z = 1.833 p = 0.033	Z = -0.583 p = 0.720
(-10,10) Window			
Mean Abnormal Returns Before Go Global ($\hat{\beta}_3$)	0.005	0.007	0.000
Mean Abnormal Returns After Go Global ($\hat{\beta}_4$)	0.005	0.009	-0.005
Test of H_0: $\beta_4 - \beta_3 \leq 0$	Z = 2.979 p = 0.001	Z = 2.986 p = 0.001	Z = -1.465 p = 0.929
Observations	*159*	*58*	*20*