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**Financial market integration and
the value of global diversification:
evidence for US acquirers in cross-
border mergers and acquisitions**



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The views expressed are those of the authors and do not necessarily reflect the views of the Bank of Finland.

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Financial market integration and the value of global diversification: evidence from US acquirers in cross-border mergers and acquisitions

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Abstract

Using theories of internal capital markets, this paper examines the link between financial market integration and the value of global diversification. Based on a sample of 1,491 completed cross-border mergers and acquisitions (M&As) conducted by US acquirers during the 1990–2003 period, we find that, in general, US shareholders gain significant positive abnormal returns following the announcement of the merger/acquisition. Specifically, firms that acquire/merge with targets from countries with financially segmented markets experience significantly higher positive abnormal returns than those that acquire/merge with targets from countries with financially integrated capital markets. We find that the significantly higher positive returns are driven particularly by deals between firms from unrelated industries. These firms with higher announcement returns are also characterized by positive and significant post-merger operating performance. This finding is consistent with our event study results and suggests that the overall improvement in the merged firms' performance is likely due to the influx of internal capital from wholly integrated acquirers to segmented targets, firms that, on average are usually faced with higher capital constraints.

Key words: financial market integration, global diversification, internal capital markets, mergers, acquisitions

JEL classification numbers: G15, G31, G34

Mitä yhdysvaltaisten yritysten laajentuminen kansainvälisten yrityskauppojen ja -fuusioiden avulla kertoo globaalin hajauttamisen eduista yhdentyvillä rahoitusmarkkinoilla?

Suomen Pankin tutkimus
Keskustelualoitteita 24/2006

Bill B. Francis – Iftekhar Hasan – Xian Sun
Rahapolitiikka- ja tutkimusosasto

Tiivistelmä

Tässä työssä tutkitaan sisäisten pääomamarkkinoiden teorioita rahoitusmarkkinoiden yhdentymisen ja globaaliin hajauttamiseen liittyvien etujen välisten mahdollisten yhteyksien avulla. Tutkimuksen otos koostuu ajanjakson 1990–2003 aikana toteutetusta 1 491 kansainvälisestä yrityskaupasta ja -fuusiosta, joissa yhtenä osapuolena on ollut yhdysvaltalainen yritysostaja. Tutkimustulosten mukaan yhdysvaltalaisen osakkeenomistajien voitot ovat kasvaneet epätavallisen paljon sen jälkeen, kun yrityskaupasta tai -fuusiosta on tiedotettu julkisuudessa. Täsmällisemmin sanoen yritysten voitot kasvavat epätavallisen paljon, kun ne ostavat sellaisia yrityksiä tai sulautuvat yhteen sellaisten yritysten kanssa, joiden kotimaan rahoitusmarkkinat ovat segmentoituneet. Yrityskauppojen tai -fuusioiden tuotot jäävät sen sijaan vähäisemmiksi, kun kaupan tai fuusion kohteena olevien yritysten kotimaan rahoitusmarkkinat ovat hyvin integroituneet kansainvälisiin rahoitusmarkkinoihin. Tutkimuksessa osoitetaan myös, että epätavallisen suuret tuotot syntyvät erityisesti eri toimialoille kuuluvien yritysten välisistä yrityskaupoista. Lisäksi kaupan jälkeinen toiminnallinen tehokkuus kasvaa tällaisissa yrityksissä, joiden voitot kasvavat yrityskaupasta tiedotettaessa. Tapahtumatutkimuksen tulokset tukevat tätä johtopäätöstä ja viittaavat siihen, että fuusioituneiden yritysten tehokkuuden kasvu on seurausta täysin yhdistyneen yrityksen sisäisistä pääomavirroista segmentoituneilla markkinoilla toimiville yrityksen osille, joiden toimintaa pääomien puute on aiemmin rajoittanut.

Avainsanat: rahoitusmarkkinoiden yhdentyminen, globaali hajauttaminen, sisäiset pääomamarkkinat, fuusiot, yrityskaupat

JEL-luokittelu: G15, G31, G34

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1 Introduction

In recent years, going global has been a popular trend for many firms. In fact, the value of cross-border M&As (one of the major forms of foreign direct investments) worldwide has increased more than six-folds during the period 1991–1998, from US\$85 billion in 1991 to US\$558 billion in 1998 (Kang and Sara, 2000). Theoretical arguments by Morck and Yeung (1992, 1998) suggest that global diversification can offer synergistic benefits to the firms due to the information-based intangible assets (ie the magnitude of Tobin's q , superior production skills, marketing skills, and management quality). Although these arguments are plausible and there are some earlier studies (Doukas, 1995) that provide results consistent with the synergy theory, some recent studies however report that global diversification is associated with inferior firm performance (Denis, Denis and Yost, 2002; Moeller and Schlingemann, 2004).

Besides the synergy theory, the existing literature also suggests that the benefits (or the costs) of global diversification may as well arise from institutional differences between the participating countries such as the tax code, the openness of trade, and the magnitude of shareholder protection (see, eg, Scholes and Wolfson, 1992; Bodnar et al, 1999; Denis, Denis and Yost, 2002 and Moeller and Schlingemann, 2004). One of the important institutional differences in the issue of global diversification that has not yet received much attention is the status of the merging countries' financial market integration – a proxy of the average firm's ability to access foreign capital in a particular country.

In this paper we examine how differences in financial market integration across countries impact the performance of firms that diversify globally. We contend that by focusing on the issue of financial market integration we will get a much better understanding of the value variation among globally diversifying firms. This is the case for several reasons. First of all, the existence of financial market segmentation provides us with a unique opportunity to test globally the hypothesis of internal capital markets (Stein, 1997; Scharfstein and Stein, 2000). Within the context of firms' diversifying domestically, Stein's (1997) 'winner picking' model of internal capital market predicts that, given the existence of capital constraints, an internal capital market will create value by financing positive NPV projects which would otherwise be foregone by stand-alone, small firms that face difficulties in raising external capital. Although Stein's arguments are developed under the assumption of firms diversifying domestically, they are easily transferable to global transactions.

As such, we propose that when a pair of merging firms comes from two countries with different degrees of financial market integration (a proxy of average firms' ability to access foreign capital in a particular country), the benefits of the newly created internal capital market will be larger than those

created by a pair of merging firms from countries with similar degrees of financial market integration. Because, on average, firms from financially segmented markets are more likely to miss opportunities to undertake positive NPV projects due to lack of capital than those in integrated capital markets, value could be created when firms transfer capital from low growth firms in a given country to high growth firms in another but facing more capital constraints.

Second, although the literature on cross-border M&As has recently introduced country factors (such as economic development, capital market development, trade openness, and legal standards) as important factors in explaining post-merger performance, the openness of financial markets is not necessarily highly correlated with these institutional measures. For example, the financial markets in emerging countries have only started to experience significant openness during the 1990s' ((see, Bekaert and Harvey, 2002; Levine and Zervos, 1998 and Edison and Warnock, 2002; among others).

We note that there are equally plausible reasons to believe that global diversification could reduce shareholder wealth. For example, it is more complex to manage a diversified global firm than a domestic one (Harris et al, 1982 and Myerson, 1982; Bodnar et al, 1999). This complexity may reduce the value that a firm can reap from diversifying globally. Therefore, even when benefits of creating an efficient international internal market do exist as proposed earlier, we may not be able to observe them from the ex-post value of the merged firm. We however do not expect such costs to be the same for all mergers. For instance, firms with managers that are experienced in managing a complex diversified firm may face much less difficulties than those of focused firms who are diversifying for the first time via cross-border M&As.

In addition, we would also expect that focused firms diversifying globally for the first time would be less likely to diversify into segmented financial capital markets due to the absence of managerial skills of managing a both globally and industrially diversified firm and the level of information asymmetry. The high agency costs in terms of monitoring unrelated foreign operations in a less developed economy may have adverse effect on the firm's market value. Therefore, the announcement effect of firms who still choose to diversify into these countries are likely to be significantly less positive than if they were to diversify into a more integrated capital market. Importantly, this lower value is also likely to be exacerbated given the likely absence or lack of skill and experience associated with managing a complex and diversified organization.

Therefore, this study extends the existing literature by providing evidence on how the differences in financial market integration across countries impact the performance of firms that diversify internationally. Specifically, this paper examines the stock market reaction of US acquiring firms involved in cross-border M&As. The choice of US bidding firms are primarily due to the important and dominating role of US firms in the foreign direct investment (FDI) market. In

fact, it is the largest capital inflow and outflow country and therefore, by studying cross-border M&As affiliated with the US market, we are able to provide a much richer understanding on the subject matter. Additionally, the US capital markets are fully integrated. The benefits to segmented financial markets of creating an efficient international internal capital market should therefore be among, if not the highest. One can only observe value enhancement when the benefits of global diversification exceeds the costs. The possible largest gap of financial market integration (eg US versus segmented markets) enables us to identify such benefits.

Examining 1,491 US bidders, we find that on average US shareholders gain statistically significant, 0.96% cumulative abnormal returns following the announcement of cross-border M&As. Firms that acquire targets from financially segmented countries experience statistically significant 1.31% abnormal returns while those that acquire targets from integrated countries experience only 0.90% abnormal returns. The positive difference in the announcement effects between the transactions involved with segmented targets and integrated targets is statistically significant and is driven by deals conducted between unrelated industries, which report 2.03% cumulative abnormal returns for US bidding firms' shareholders and it is significantly higher than the 0.96% cumulative abnormal returns of those unrelated deals completed in financially integrated countries. Related transactions do not show significantly different announcement effects for firms acquiring targets from either type of markets. Although our findings in support of an efficient internal capital markets in unrelated transactions is not consistent with the implications of Stein (1997)'s view that internal capital markets may work best among firms that are more focused, however, it is consistent with the results of the studies in cross-border acquisitions by Doukas and Travlos (1988) and Eun, Kolodny and Scheraga (1996), in which firms' wealth-maximizing objective is better served when expanding into new industries.

All of the major findings of the event study are supported in cross-section regression analysis. In addition we also find some support for our conjecture that firms need to acquire some experience and skill of managing a multinational diversified organization first in order to capture any benefits created by an efficient international internal capital markets.

To provide further evidence on the effect of market integration on cross-border M&As, we examine the operating performance of merging firms pre- and post-merger. We find that for firms taking over targets in unrelated business, both the raw and industry-adjusted average performance changes are positive and significant, with the performance improvement particularly strong for firms taking over targets from segmented markets. The strong performance improvement in firms taking over segmented targets is consistent with the event study results, thus providing strong support of our underlying hypothesis that shareholders respond more favorably, the higher the expectations of economic improvement.

Our paper adds to the literature in several ways. First, we provide a link between financial market integration and the value of cross-border M&As. Our results suggest that firms from segmented financial markets can overcome the usual firm-level capital constraints by being acquired by firms from integrated capital markets. Second, we use a broader set of countries (and longer sample period) and therefore provide a more comprehensive analysis on the value of global diversification across countries than the other existing studies on cross-border M&As. Specifically, our sample contains targets from 68 countries. Of these countries, 23 of them have financially integrated capital markets with the others having segmented capital markets. In summary, the paper puts forward the importance of the financial market integration status of the countries to which the merged firms are from in evaluating the performance of global diversification related decisions.

Furthermore, analyzing the cross border decisions from an internal capital market perspective provides a new and significant link to the literature. To our knowledge, there is no study that formally investigates the relationship between the announcement effects and the post-merger operating performance changes of cross-boarder M&As with the degree of financial market segmentation of merging firms' affiliated countries using the framework of internal capital markets. Fauver, Houston and Naranjo (2003) conduct a study that is closest in spirit to our study and find that the 'diversification discount' in the US market does not exist in countries with less access to foreign capital. Our study, on the other hand, focuses on how the financial integration status of different countries impacts shareholders' value of bidding firms during global diversification initiatives. It must be pointed out, however, that our cross-border diversification analysis complements the work of Fauver, Houston and Naranjo (2003) on domestic diversification. This complimentary result is important as recent research by Moeller and Schlingemann (2002) suggests that cross-border acquisitions differ from domestic transactions.

The remainder of this paper is organized as follows. Section 2 overviews the literature; section 3 describes the data and statistical methodology employed in the analysis; section 4 presents and discusses the event study results; section 5 provides evidence of post-merger operating performance changes; and section 6 provides the concluding remarks.

2 Literature and hypothesis

Existing studies on the wealth effects of acquiring firms in cross-border M&As provide mixed results. Early studies, by Doukas and Travlos (1988), Morck and Yeung (1992), Lang and Ofek (1995), among others, document that the firm's market value is positively associated to its multinational operations and that the benefits might come from the expansion of firms' network and the utilization of information-based intangible assets. Doukas (1995) further investigates gains from foreign acquisitions from free cash flow and growth opportunity perspectives. He reports that bidder abnormal returns are substantially higher for high Q bidders than low Q bidders and that free cash flow is inversely related to bidder returns for low Q bidders. Kiyamaz and Mukherjee (2000) posit that the benefits of cross-boarder diversification are inversely related to the extent of co-movement in the economies of the bidders and targets' countries.

The more recent studies offer contrasting results. Moeller and Schlingemann (2002) find that US acquirers experience significantly lower stock and operating performance in cross-border M&A activities than they do following domestic transactions. The authors report a negative association between an increased global and industrial diversification and stock performance. They conjecture that the lower gains for cross-border transactions due to the acquirers' inability to correctly value or capture synergies in cross-border takeovers. Using an excess value measure (see, eg, Berger and Ofek, 1995) Denis, Denis and Yost (2002), explore the valuation consequences of global diversification and report that, on average, globally diversified firms trade at a discount relative to a portfolio of single-segment, domestic firms operating in the same industries. They therefore conclude that global diversification, like industrial diversification, is associated with a reduction in value for the average firm.

These conflicting results therefore raise the following question: "Do Cross-border M&As Add Value to Acquiring firms' Shareholders?" Theoretical arguments suggest that diversification can have both positive and negative effects on firm value. In his 'winner-picking' model, Stein (1997) suggests that firms tend to transfer capital from divisions with lower growth opportunities to those with higher growth opportunities but face capital constraints. On the other hand, Scharfstein and Stein (2000) using a two-tier agency model argue that there is a dark side to internal capital market and suggest that, headquarter executives will over-allocate capital to rent-seeking divisional managers.

Both the bright side and dark side of internal capital market can be manifested in cross-border M&As. So far, it is an open question as to whether cross-border M&As do create or destroy value and the answer depends on the trade off between the costs and benefits associated with the transactions. We conjecture that given the existence of financial market segmentation where there are

countries with less access to foreign capital, it is plausible at least in some cases from an internal capital market perspective, that the benefits created by the merger of firms from different countries will exceed the costs it creates.

3 Data

3.1 Sample selection and descriptive analysis

To conduct this study, we collected, from the Worldwide M&A section of the SDC Platinum Database all US affiliated cross-border M&As that took place over the 1990 to 2003 time period in which US firms were the acquirers. We obtain information on i) the identities of the firms involved in the mergers or acquisitions, ii) the status of the transactions, iii) the nation of target firms for US bidders, iv) the friendly or hostile information of the deal, v) the primary four digit SIC codes for both acquirers and targets, vi) the tender offer flag, vii) the payment methods, viii) the number of SIC codes that the acquirers and targets are active in, and ix) the shares owned by acquirers after the transaction. This provides us with 15,851 completed cross-borders M&As. Among these 15,851 US outbound transactions, 9,109 were conducted by public US firms. Given that our intention is to study the stock market reaction to firms' international M&A announcements, we dropped the transactions associated with private acquirers. Furthermore, we select our sample according to the following criteria:

- No M&As conducted by firms from utility industries;
- No M&As conducted by firms from financial industries;
- Shares acquired is larger than 50%;
- Transaction value information is available;
- Transaction value is larger than or equal to \$10million;
- Payment information available;

Therefore, the sample size reduces to 1,706 US acquirers. In order to conduct a meaningful event study, we follow the procedure that requires all acquirers have stock price information at least 265 days before the announcement date allowing us to conduct an estimation based on 255-day window 10 days prior to the announcement. Incorporating this criterion using CRSP data, we end up with a final sample of 1,491 US acquirers in our study. Accounting related data for the acquirers are taken from Compustat whereas the same data for the non-US targets are collected from the Worldscope database.

It is well known in the literature that the task of measuring capital account liberalization is notoriously difficult. Researchers in the finance literature have

conducted several studies focusing on the exact timing of financial liberalizations and treating them as one-time events or structural breaks (Bekaert and Harvey, 1995, 2002). Edison and Warnock (2001) on the other hand, present a readily available measure, namely the intensity of capital controls associated with 29 emerging market countries, that is based on the degree of restrictions on foreign ownership of equities. In this study, we use a measure that is a combination of the above two for several reasons. First, Edison and Warnock cover almost all emerging countries that went through financial liberalization during the 1990s and those countries happen to be included in our study. Second, in order to have a comparative perspective, instead of the use of continuous measurement of capital constraints by Edison and Warnock, we follow the binary measurement of Bekaert and Harvey. This means that if the target market is segmented identified either by Bekaert and Harvey or Edison and Warnock, then it is assigned a value of 1 and 0 otherwise. It is important to note that the measure of financial market integration used here is a broader measure of a country's openness to capital markets especially to foreign investors and therefore a firms' ability to access capital from foreign capitals.¹ Hence, we group countries participated in US affiliated cross-border M&As into financially fully integrated countries and not fully integrated countries (termed as 'segmented financial markets'). Those emerging markets that are not covered by Edison and Warnock (2001) and Bekaert and Harvey (1995), (2002), are relatively smaller and less integrated countries (markets) and are assumed to be financially segmented countries or markets.

Table 1 presents the distribution of the observations in our study by countries and financial market integration status for both US acquirers and US targets. Among the 1,491 US bidders, 1,275 (85.50%) went to integrated markets and 215 (14.50%) went to segmented markets. Firms from United Kingdom acquired by US bidders account for about 24% of the total cross-border M&As, while firms from Canada, Germany and France account for 14.70%, 9.60% and 8.20%, respectively. Among those 215 firms from segmented financial markets, 34 are from Brazil, 28 from Mexico, and 25 from Argentina.

Table 2 presents the distribution of the observation sorted by years and financial market integration status. The number of cross-border M&As increases steadily and rapidly from 1994 and starts declining in 1998. Firms from integrated markets account for the majority of the targets involved in US outbound cross-border M&As while there is an increasing amount of transactions involved with firms from segmented markets. The steadily increasing number of firms from segmented financial markets participating in US affiliated cross-border M&As is consistent with the trend of more interactions between industrialized countries and emerging countries in the last decade.

¹ The other strand of studies in international finance that tests capital market integration usually focuses on the commonality in returns or cost of capital across markets. This literature therefore provides a joint test of the asset pricing model used and the integration hypothesis.

Table 1.

Frequency by target countries

We use the integration measure reported in Bekaert and Harvey (1995) and use countries reported in Edison and Warnock (2001) to complement the list of emerging markets reported in Bekaert and Harvey. In this table, we present frequency of countries by grouping them into financially integrated countries and segmented integrated countries if they are not fully integrated.

Target countries sorted by financial market integration			
Integrated markets		Segmented markets	
Country name	Observations	Country name	Observations
United Kingdom	359	Brazil	34
Canada	219	Mexico	28
Germany	143	Argentina	25
France	123	China	14
Australia	66	South Korea	14
Netherlands	55	India	13
Italy	36	Puerto Rico	8
Switzerland	34	Taiwan	8
Israel	32	Chile	7
Sweden	27	Peru	6
Japan	23	Egypt	4
Norway	20	Malaysia	4
Spain	19	Venezuela	4
Denmark	17	Colombia	3
Hong Kong	15	Czech Republic	3
Belgium	14	Indonesia	3
Ireland-Rep	14	Czechoslovakia	2
South Africa	14	Hungary	2
New Zealand	12	Neth Antilles	2
Finland	11	Philippines	2
Poland	11	Portugal	2
Singapore	7	Russian Fed	2
Austria	5	Slovenia	2
		Thailand	2
		Others ^a	21
Subtotal	1276	Subtotal	215
		Total 1491	

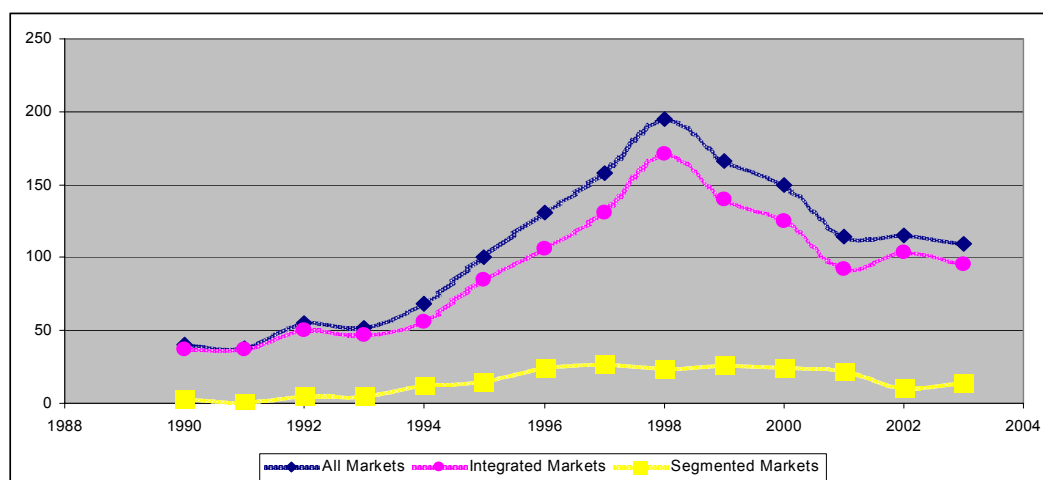
^a 'Others' includes countries of Pakistan, Algeria, Bahamas, Belize, Bermuda, Bolivia, British Virgin, Costa Rica, Ghana, Guatemala, Guernsey, Kazakhstan, Luxembourg, Morocco, Nicaragua, Romania, Saudi Arabia, Trinidad&Tob, Utd Arab Em, Yugoslavia and Zambia.

Table 2. **Frequency by years**

We use the integration measures reported in Edison and Warnock (2001). Specifically, we use their intensity of capital controls measure in each year, but we convert it to one minus their measure so that its interpretation is consistent with capital market openness to foreign investors. In this table, we present frequency of countries by grouping them into financially integrated countries and financially segmented countries sorted by year.

Year	All markets	Integrated markets	Segmented markets
1990	40	37	3
1991	38	37	1
1992	55	50	5
1993	52	47	5
1994	68	56	12
1995	100	85	15
1996	131	106	25
1997	158	131	27
1998	195	171	24
1999	166	140	26
2000	150	125	25
2001	114	92	22
2002	115	104	11
2003	109	95	14
Total	1491	1276	215

Figure 1. **Frequency of transactions**



Data source: SDC database.

Table 3 shows the descriptive statistics highlighting the characteristics of US bidders and the associated deals. The average size of transactions involved in taking over targets from integrated markets is significantly larger than that from segmented ones. One reason might be that US acquirers have been cautious in acquiring large size targets from less developed markets in order to minimize risk exposure. The size of the US acquirers, however, shows an opposite pattern – bigger firms are more likely to go to segmented markets than the smaller ones. Most of the sample cross-border M&As are financed fully by cash payments. This is consistent with the patterns reported by Rossi and Volpin (2004) in cross-border M&As worldwide. The results also suggest that cash payment is more prevalent in taking over segmented targets. The average number of SIC codes that US bidders are active in is 5.42, indicating that firms conducting global diversification are already diversified domestically. This is consistent with our conjecture and the findings of Denis, Denis and Yost (2002) that in the US, more diversified firms are more likely to go global. As reported in Table 3, only about 10% of the transactions in our sample are conducted by focused US bidders who diversify first time through cross-border M&As.

Table 3 also reports the specific source of the payment. We collect these payment details from the SDC data base. Specifically, money could be paid through existing line of credit of the US acquirers and/or through corporate funds. Usually, managers have more discretion on the disposal of corporate funds while the usage of the line of credit is verified through the creditors' stringent scrutiny. The results show that corporate funds are used significantly more frequently when taking over integrated targets. The free cash flow theory of Jensen (1986) suggests that managers have the incentive to conduct mergers that are consistent with the maximization of personal goals and perks over other priorities. Using corporate funds other than other forms of capital (eg, borrowings or line of credits) makes such expropriation easier to manage and execute. Therefore we expect that the market would react more negatively when corporate funds are used to take over a similar (related) target from an integrated market where average firms do not face financial constraints.

Table 3. **Description of the transactions**

This table displays and compares the characteristics of financially ‘Integrated’ group and ‘Segmented’ group. ‘Related’ is one if US bidders share the same two-digit SIC code with the foreign targets; ‘Transaction value’ refers to the size of the transaction; ‘All cash payment’ is 1 if the transactions are paid in all cash, otherwise 0; ‘Public targets’ refers to whether or not the foreign targets acquired by US bidders are public; ‘# of bidders SIC codes’ indicates the number of industries that the US bidders are active in; ‘Acq.Mkt value’ refers to the size of the market value of US bidders 4 weeks prior to the transaction and it is in million US dollars; ‘Focused acquirers’ refers to those US bidders that are active in single industry prior the announcement; ‘Line of credit’ refers to whether or not the transaction is financed (at least partially) by the acquirers’ line of credit; ‘Corporate funds’ refers to whether the transaction is financed (wholly or partially) by internal funds; ‘First industrial diversification’ refers to focused US firms that acquired a target in an unrelated line of business.

	Sorted by target countries’ financial market integration		
	Integrated	Segmented	diff.
Obs.	1276	215	
Related	0.560	0.651	-0.091***
Transaction value (\$US mil.)	113.977	93.866	20.111**
All cash payment	0.760	0.842	-0.082***
Hostile	0.013	0.000	0.013**
Tender	0.118	0.047	0.071***
Public targets	0.175	0.116	0.058**
# of bidders SIC codes	5.428	5.344	0.084
Acq.Mkt value (\$US mil.)	12284.840	17349.080	-5064.240*
Focused acquirers	0.100	0.079	0.021
Line of credit	0.045	0.033	0.012
Corporate funds	0.043	0.019	0.024**
First industrial diversification	0.040	0.023	0.017

The symbols *, **, *** denote statistical significance at the 10%, 5%, and 1% respectively.

4 Event study analysis

4.1 Abnormal returns

To conduct the event study, we apply the standard event study methodology and make the standard assumption that security returns are driven by a single-index market model. Table 4 presents the abnormal returns to US bidders around the announcement of cross-border acquisition ($t=0$). Panel A shows that US bidders' shareholders experience significant and positive abnormal returns of 0.69%. This is significantly higher than the abnormal returns of the bidders during the 1980s' cross-border transactions as reported in the study of Kiyamaz and Mukherjee (2000) which is 0.21% and insignificant. The three day cumulative abnormal returns (CARs) reported in panel B around period $t = (-1, 1)$ for US bidders are 1.02% and statistically significant at the 1% level.

Table 5 reports the three day CARs around period $t = (-1, 1)$ for US bidders in cross-boarder M&As dis-aggregated by target countries' financial market integration and the relatedness of the transactions. To make our results sorted by the relatedness more comparable with others (Berger and Ofek, 1995; and Lamont and Polk, 2002) among others we follow the definition of relatedness in the extant literature of global diversification. That is, if the merging firms report operations in the same-two-digit SIC code industries, we classify the acquisition as related and otherwise as unrelated. To classify relatedness this way, our results based on event study could also be comparable with those that are based on excess value method (Bodnar et al, 1999 and Denis et al, 2002).

Table 5 shows that the three day CARs of those US bidders going to financially integrated markets and those to financially segmented markets are significantly different from each other. Bidding firms going to segmented markets experience significant 1.31% cumulative abnormal returns which is 0.41% higher than that of those going to integrated markets and the difference is significant at the 10% level. As is shown in the table, the difference in the CARs between firms going to these two types of markets is driven by the unrelated transactions. While the CARs of the related transactions are almost the same between the firms taking over targets from either types of markets, they are significantly different (0.82% and 2.03%, respectively) in unrelated transactions. This is consistent with the results reported in Doukas and Travlos (1988) and Eun, Kolodny and Scheraga (1996) that the returns are higher for firms expand into a new line of business in cross-border M&As. Indeed, as pointed out by Shapiro (1982), it is matter of survival rather than a search for abnormal profits when firms becoming multinational. We believe that firms are seeking abnormal profits when taking over targets in unrelated industries from segmented markets where good quality projects might be passed up due to the shortage of funding. Acquiring related

transactions, however, given everything else equal, may signal a firm's limited capacity to extract additional benefits from its existing operations.

Table 4. **Acquirers abnormal returns**

This table shows event study results for 1,491 US bidders. The estimation window is from (-265, -11) while the event window is from (-10, 10). To be included in the event study, the observations must have at least 255 days stock information available 10 days prior the announcement. Panel A shows average daily abnormal returns while panel B shows the cumulative abnormal returns for several windows.

Panel A. Average daily abnormal returns (AARs)

Days	AARs (%)	Z-statistic
-10	0.11	1.05
-9	-0.04	0.33
-8	0.02	-0.38
-7	-0.07	-0.49
-6	0.02	0.13
-5	-0.06	-0.67
-4	-0.10	-1.59*
-3	-0.03	-0.16
-2	0.22	2.81**
-1	0.09	1.09
0	0.69	8.45***
1	0.24	4.53***
2	-0.06	0.57
3	0.03	0.91
4	0.00	0.06
5	0.04	0.32
6	-0.05	-0.22
7	-0.01	0.05
8	-0.09	-1.02
9	-0.04	-0.89
10	-0.08	-1.42*

Panel B. Cumulative abnormal returns (CARs)

Windows	CARs (%)	Z-Statistic
(-10, -2)	0.08	0.34
(-5, -2)	0.03	0.19
(-1, 1)	1.02	8.12***
(-5, 5)	1.05	4.91***
(-10, 10)	0.83	2.93**

The symbols *, **, *** denote statistical significance at the 10%, 5%, and 1% respectively

Table 5. **US bidders CARs sorted by target countries' financial market integration**

This table shows event study results for 1,491 US bidders dis-aggregated by the financial market integration status of the target firm's country and by the relatedness of the transactions. The estimation window is from (-265, -11) while the event window is from (-1, 1). To be included in the event study, the observations must have at least 255 days stock information available 10 days prior the announcement. We use the integration measure reported in Edison and Warnock (2001). Specifically, we use their intensity of capital controls measure in each year, but we convert it to one minus their measure so that its interpretation is consistent with capital market openness to foreign investors. So a (maximum) value of one implies complete integration (ie, no foreign ownership restriction) and a minimum value of zero implies that the country's financial markets are completely segmented. In this table, we present frequency of countries by grouping them into financially integrated countries if they are fully integrated and financially segmented countries if they are not fully integrated according to Edison and Warnock (2001). 'Related' refers to US bidders that share the same two-digit SIC codes with the acquired foreign targets, otherwise, they will be under the category of 'unrelated'.

	All		Related		Unrelated		Diff.		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
Obs.				Diversified	Focused	Diversified	Focused		
Total	1491	854	637	766	88	581	56		
Integrated	1276	714	562	638	76	511	51		
Segmented	215	140	75	128	12	70	5		
CARs (-1, 1)									
Total	0.96*	0.96***	0.96***	0.92***	1.34***	0.89***	2.67***	-1.87**	0.03
(9)	0.90*	0.97***	0.82***	0.94***	1.21**	0.62***	2.77***	-2.15**	0.32
(10)	1.31*	0.93***	2.03***	0.81**	2.20**	2.06***	1.62	0.44	-1.25
Diff. (10)-(9)	0.41*	-0.04	1.21*	-0.13	0.99	1.44**	-1.15		0.58

The symbols *, **, *** denote statistical significance at the 10%, 5%, and 1% respectively.

As discussed earlier, firms without the experience and skill of managing a complex and diversified organization prior to the cross-border M&As will be more reluctant to undertake global acquisitions of firms from segmented markets. In our sample, only 5 (about 8.92%) out of 56 of focused US bidders that diversify globally and industrially at the same time chose to go to segmented markets and these 5 firms report a lower and insignificant abnormal returns than those already diversified US bidders that also merge with firms from segmented markets. In these cases, it appears that the benefits of an efficient internal capital market do not outweigh the costs.

Finally, the results in Table 5 also indicate that focused US bidders that choose to diversify both industrially and globally for their first time but whose target is from integrated markets experience significant and positive CARs of 2.77%. This return is significantly higher than that experienced by the diversified bidders. Our results are consistent with the findings of Doukas (1995) who reports that financial markets reward firm's first global diversification more than its subsequent ones. Doukas and Travlos (1988) argue that the initial investment in a country may allow a firm to exploit more of any cross-country imperfections. Therefore, by controlling those first time diversifying firms, the benefits of the created internal capital market would be even more significant when studying the effect of financial market integration in cross-border M&As.

4.2 Cross-section analysis

In this sub-section, we are interested in determining whether the observed financial market integration effects survive after controlling for the effects of variables known to explain CARs following M&As announcements. Specifically, we perform cross-section analysis where we include along with our measure of the degree of integration the following control variables – the relatedness of the transactions, the relative size of the transactions, the payment method, the source of the payment, the organizational type of target firms in the cross-border M&As, the size of the acquirers, and the diversification status of the acquirers (focused or not) prior to the current transaction.

Table 6 presents results of the regression analysis. Models 1 to 3 include all unrelated transactions, and models 4 to 6 include all related ones. Results from models 1 to 3 indicate that the impact of financial market integration on acquiring firms' CARs remains statistically significant after controlling for other effects. Interestingly we find that the effect of the level of integration is particularly important when corporate funds are used as the payment method. Specifically, the payment by corporate fund itself either has significant and negative impact in related transactions (as shown in models 4 to 6) or has insignificantly impact in unrelated transactions (as shown in models 1 to 3). The interaction variable of

variables ‘Corp. fund’ and ‘Segmented’, however, has positive and significant relationship with the bidding firms’ abnormal returns, especially in unrelated transactions. This finding is consistent with our conjecture that since corporate fund is easier for managers to access, therefore it is generally perceived by the investors as an abuse of managerial discretion when managers use corporate fund to take over related targets from integrated markets. On contrast, when corporate fund is used to take over segmented targets from unrelated industries, shareholders perceive such transactions as efficient ones because it provides managers with an opportunity to invest into projects that have high growth potential but may have been given up in countries with financial constraints.

The impact the size of the acquiring firm is consistent with that usually found in the literature, which reports that the size of the acquiring firms reduces value (see, eg, Moeller et al, 2004). The observed different announcement effects of focused and diversified acquirers from the event study are not statistically but economically significant, especially in unrelated transactions. The weak evidence is probably due to the small sample size.

Consistent with the event study results, the observed significant impact of financial market integration does not exist in related transactions. In related cross-border M&As, it is the payment method and the source of payment that are statistically significantly. If cash is the only payment method in M&As with related targets, acquiring firms experience statistically significantly lower announcement effects, especially when valuable internal funds are used to take over targets from integrated markets. Shareholders perceive that these transactions do not add as much value as taking over segmented targets in unrelated industries and thus, respond less favorably.

Table 6.

**Cross-sectional analysis for US bidders' CARs
around announcement date**

The dependent variable is the three day abnormal returns of US bidders. 'Segmented' is a dummy variable and it is one if the foreign targets are from financially segmented markets, otherwise 0; 'Related' is a dummy variable and it is one if bidders and targets share the same two-digit SIC codes; Ln acq. is the natural logarithm of the size of acquiring firms' market value; 'All cash' is a dummy variable and it is one if the transactions are paid in 100% cash, otherwise 0; 'Public' is one if the foreign target are public firms; 'Relative size' is the ratio of the actual size of the transaction to the actual size of the market value of the acquiring firm; 'Focused' is one if US bidders operate in only one industry; 'Line of credit' refers to that the transaction is financed (at least partially) by the acquirers' line of credits; 'Corp. fund' refers to whether the transaction is financed (wholly or partially) by internal funds; 'Segmented*Line of credit' is an interaction variable of 'Segmented' and 'Line of credit' and 'Segmented*Corp. fund' is an interaction variable of 'Segmented' and 'Corp. fund'.

	Unrelated			Related		
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	0.066** (0.022)	0.054* (0.064)	0.047 (0.124)	0.034 (0.357)	0.033 (0.367)	0.031 (0.405)
Segmented	0.016** (0.042)	0.016** (0.037)	0.015** (0.046)	0.004 (0.391)	0.004 (0.458)	0.003 (0.622)
Ln acq	-0.003** (0.016)	-0.003** (0.040)	-0.002* (0.081)	-0.001 (0.623)	-0.001 (0.643)	-0.001 (0.693)
All cash	0.009 (0.236)	0.010 (0.189)	0.009 (0.216)	-0.013* (0.071)	-0.013* (0.068)	-0.013* (0.071)
Public	0.010* (0.088)	0.010 (0.210)	0.008 (0.201)	-0.011** (0.040)	-0.011* (0.059)	-0.010* (0.069)
Relative size	0.001 (0.922)	-0.002 (0.855)	0.005 (0.752)	0.034 (0.135)	0.034 (0.141)	0.035 (0.138)
Focused	0.015 (0.164)	0.014 (0.197)	0.014 (0.189)	-0.002 (0.885)	-0.001 (0.917)	-0.001 (0.949)
Line of credit		0.033** (0.014)	0.031** (0.014)		0.017 (0.276)	0.015 (0.393)
Corp. fund		0.006 (0.650)	-0.001 (0.935)		-0.029** (0.030)	-0.034** (0.015)
Segmented* Line of credit			-0.110* (0.086)			0.007 (0.854)
Segmented* Corp. fund			0.290*** (0.000)			0.061** (0.050)
Obs.	621	621	621	810	810	810
Adjusted R-square	0.024	0.038	0.055	0.029	0.035	0.037

The symbols *, **, *** denote statistical significance at the 10%, 5%, and 1% respectively.

5 Operating performance

This section provides additional evidence on the role of financial market integration in cross-border M&As by comparing changes in operating performance between transactions involved with targets from segmented capital markets and those from integrated capital markets.

Following Healy et al (1992) and Moeller et al (2005), we use both raw and industry-adjusted operating cash flows, defined as revenue minus cost of goods sold minus selling and general expenses minus change in working capital, as our measures of operating performance. The operating cash flows are normalized by the market value of assets at the beginning of the year, defined as the sum of the market value of equity, book value of preferred stock, book value of long-term debt and book value of current long-term debt. The pre-merger operation cash flows are defined as the weighted averages of target and acquirer values, with the weights being the relative asset values of the two firms. The post-merger operation cash flows is the bidder's (merged firm) value after the acquisition is completed. The industry-adjusted measure for each firm is calculated by subtracting the mean of the corresponding year and the major SIC grouping from the raw operating performance measure. Due to the data requirements and the limited resources on foreign targets' accounting information, the sample size reduces to 82 transactions with 74 integrated targets and 8 segmented targets.

Table 7 presents the raw and industry-adjusted operating cash flows pre- and post-merger sorted by target country's financial market integration and the type of the transaction for each firm over the years [-5, -1] and [+1, +5]. For firms taking over targets in unrelated business, the raw average performance change is 0.012 and the industry-adjusted performance change is 0.006. The performance improvement is particularly strong in firms taking over segmented targets, which is 0.044 without industry adjustment and 0.072 with industry adjustment. The strong performance improvement in firms taking over targets from segmented financial markets is consistent with the findings from the event study. It also provides support for our hypothesis that an efficient internal capital market is created, thereby resulting in additional benefits to global diversification, all else equal, if merging firms are from financial markets with different integration status.

Table 7.

Pre- and postmerger operation cash flows

Operation cash flows are defined as revenue minus cost of goods sold minus selling and general expenses minus change in working capital. The operation cash flows are normalized by the market value of assets at the beginning of the year, defined as the sum of the market value of equity, book value of preferred stock, book value of long-term debt and book value of current long-term debt. The pre-merger operation cash flows is defined as the weighted averages of target and acquirer values, with the weights being the relative asset values of the two firms. The post-merger operation cash flows is the bidder's values after the acquisition is completed. The industry-adjusted measure for each firm is calculated by subtracting the mean of the corresponding year and major SIC grouping from the raw operating performance measure. 'Firm average' reports the raw operation cash flows while 'Industry-adjusted average' reports for the adjusted values. Panel A and B report the operation cash flows for pre-merger and post-merger, respectively, while panel C reports the changes, which is the difference between the values of post-merger and those of pre-merger combined firm.

Panel A. Pre-merger operation cash flows (-5, -1)						
	Related			Unrelated		
	Firm average	Industry-adjusted average	Obs.	Firm average	Industry-adjusted average	Obs.
All	0.104	0.012	48	0.106	0.013	34
Segmented	0.074	-0.019	5	0.114	0.013	3
Integrated	0.108	0.016	43	0.105	0.013	31
Panel B. Postmerger operation cash flows (1, 5)						
	Related			Unrelated		
	Firm average	Industry-adjusted average	Obs.	Firm average	Industry-adjusted average	Obs.
All	0.087	-0.005	48	0.118	0.019	34
Segmented	0.054	0.028	5	0.158	0.085	3
Integrated	0.091	-0.0085	43	0.114	0.013	31
Panel C. Average operation cash flows changes						
	Related			Unrelated		
	Firm average changes	Industry-adjusted average changes	Obs.	Firm average changes	Industry-adjusted average changes	Obs.
All	-0.017	-0.017	48	0.012	0.006	34
Segmented	-0.020	0.047	5	0.044	0.072	3
Integrated	-0.017	-0.024	43	0.009	0.000	31

The average of the raw operating cash flows for firms conducting related transactions is 0.104 pre-merger and 0.087 post-merger, and the average changes is -0.017. The change in industry-adjusted operating cash flows is also -0.017. The negative operating performance changes are not consistent with the results of Healy et al (1992), which suggest a strong performance improvement for firms with highly overlapping businesses. We believe that the possible higher agency costs, information asymmetry and cultural differences in cross-border transactions may lead to a decrease in firm performance. Firms taking over targets from segmented financial markets, however, experience performance improvement compared to their industry counterparts for similar type of transactions. However, caution should be exercised in interpreting these results given the relatively small number of observations.

To test the relationship between post-merger performance changes in operating cash flows and abnormal stock returns at merger announcements we conduct cross-sectional analysis with the dependent variable being the three-day abnormal returns for acquiring firms around the event date. Table 8 contains the estimated coefficients. Models 1 and 2 include all observations with operating performance change data available. The coefficient of the industry-adjusted cash flows is positive and significant at the 1% level (the use of changes in raw cash flows provides similar results). This finding is consistent with the notion that the positive stock price reaction is due to the anticipated increase in expected cash flows resulting from the merger. Importantly, we find a positive and significant relation between the interaction of 'Segmented' and 'Ind. adjusted changes' indicating that shareholders value the anticipated changes more if the target is from a segmented financial market. Again, the positive relationship is driven by transactions in unrelated industries.

In sum, the results from the event study and the post-merger operating performance analysis are consistent with our conjecture that the increase in value for acquiring firms in cross-border M&As is the highest if the pair of merging firms are from countries (or markets) with different and possibly opposite financial market integration status, especially for unrelated transactions. Empirical evidence from the US domestic markets indicates that diversified firms trade at a value discount and that there is a positive stock price reaction when firms expand into related business areas. However, here we find that even for unrelated firms, there is a positive and significant stock price reaction for acquirers, especially if the target is from a segmented financial market. We attribute this finding to the fact that, in general, firms in segmented capital markets do not have easy access to sufficient capital to exploit the growth opportunities that they are confronted with. Therefore, when they are merged or acquired by firms from integrated financial markets, they are afforded the opportunity to obtain new and additional funding, thus allowing them to exploit their growth opportunities. The positive changes in the operational cash flows of the consolidated firm add credence to this argument.

Table 8.

US bidders CARs explained by operating performance changes

The dependent variable is the three day abnormal returns of US bidders. ‘Ind. adjusted changes’ is the changes of the industry adjusted operation cash flows; ‘Segmented’ is a dummy variable and it is one if the foreign targets are from financially segmented markets, otherwise 0; ‘Related’ is a dummy variable and it is one if bidders and targets share the same two-digit SIC code; ‘Ln acq.’ is the natural logarithm of the size of acquiring firms’ market value; ‘All cash’ is a dummy variable and it is one if the transactions are paid in 100% cash, otherwise 0; ‘Public’ is one if the foreign target are public firms; ‘Relative size’ is the ratio of the actual size of the transaction to the actual size of the market value of the acquiring firm; ‘Focused’ is one if US bidders operate in only one industry; ‘Line of credit’ refers to whether the transaction is financed (at least partially) by the acquirers’ line of credit; ‘Corp. fund’ refers to whether the transaction is financed (wholly or partially) by internal funds.

	All		Unrelated		Related	
	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	-0.075 (0.580)	-0.077 (0.567)	0.078 (0.470)	0.085 (0.462)	-0.103 (0.532)	-0.101 (0.554)
Ind. adjusted changes	0.167*** (0.008)	0.160** (0.019)	0.095 (0.319)	0.123 (0.228)	0.178** (0.015)	0.172** (0.032)
Segmented	0.006 (0.677)	0.006 (0.667)	0.020* (0.053)	0.020* (0.070)	0.001 (0.969)	0.001 (0.975)
Segmented* Ind. adjusted changes	0.168* (0.070)	0.178* (0.073)	0.284*** (0.004)	0.264*** (0.010)	0.089 (0.442)	0.096 (0.439)
Ln acq	0.003 (0.546)	0.003 (0.532)	-0.003 (0.460)	-0.003 (0.479)	0.004 (0.609)	0.004 (0.632)
All cash	0.003 (0.914)	0.002 (0.941)	0.016 (0.171)	0.011 (0.307)	-0.005 (0.901)	-0.005 (0.913)
RelativeSize	0.204* (0.100)	0.204 (0.111)	-0.033 (0.717)	-0.094 (0.340)	0.220 (0.116)	0.219 (0.127)
Focused	0.008 (0.560)	0.010 (0.486)	0.072*** (0.000)	0.042*** (0.001)	-0.004 (0.825)	-0.003 (0.851)
LineofCredit		-0.005 (0.808)		0.043*** (0.007)		-0.016 (0.443)
Corp.Fund		0.015 (0.315)		-0.024 (0.104)		0.021 (0.335)
Related	-0.025** (0.045)	-0.025** (0.041)				
Obs.	75	75	30	30	45	45
Adjusted R-square	0.411	0.414	0.477	0.502	0.417	0.423

The symbols *, **, *** denote statistical significance at the 10%, 5%, and 1% respectively.

6 Summary

We contend that an efficient international internal capital market can be created in cross-border M&As when the pair of the merging firms come from financial markets characterized by different degrees of integration. This efficiency is most likely to be present in unrelated transactions. To test this hypothesis, we examine the cross-sectional differences in announcement effects of 1,491 US bidders, with targets from 68 countries of which, 23 have financially integrated capital markets and 45 have financially segmented capital markets, spanning the 1990–2003 period. Our regression results demonstrate that the financial market integration status of targets' home countries has a statistically significant relation with the announcement effects for US bidders. And this relation is driven primarily by unrelated transactions. The importance of the degree of financial market integration does not diminish when we control for other institutional or firm-specific factors that have been shown to explain abnormal returns associated with M&A announcements.

The results from post-merger operating performance confirm our event study findings. We find that there is a positive relationship between post-merger operating performance and the bidders' abnormal returns. This is consistent with the hypothesis of capital market efficiency that shareholders of acquiring firms response favorably due to the fact that they expect an improvement in the operating performance in taking over targets from segmented markets because capital can be transferred to divisions (the acquired targets) that faced higher financial constraints prior to the merger.

In summary, we argue that the value of global diversification vary with the target countries' capital market integration. The findings from both the stock price reaction and post-merger operating performance support our conjecture that the performance of the merged firm is enhanced when the merging firms are from countries or markets with different or opposite financial market integration status. This perspective is plausible because the firms from segmented markets are likely to resolve some of their capital constraints as more capital may be available and transferred internally from the firms from integrated capital markets to the segmented capital market firms.

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