FINANCIAL CONSTRAINTS AND FINANCING DECISION IN CROSS-BORDER MERGERS &ACQUISITIONS: EVIDENCE FROM THE US RETAIL SECTOR

By

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A DISSERTATION

Submitted to
Michigan State University
in partial fulfillment of the requirements
for the degree of

Retailing—Doctor of Philosophy

2017

ABSTRACT

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Many global retailers in mature markets employ mergers and acquisitions (M&As) as an essential strategic tool to expand into foreign markets. Cross-border M&As are more likely to face financial constraints than other forms of investment and domestic deals. When facing different levels and dimensions of financial constraints, retail Multinational Enterprises (MNEs) tap various capital resources to fund their overseas expansion. Effective, timely financing decision could enable retailers to capture opportunities that they would otherwise have forgone. More importantly, an acquirer's M&A financing decision may sequentially influence its future cash flows, financial leverage, subsequent financial decisions, ownership structure and profits of both acquirer and target. Given the substantial presence of financial constraints and the importance of financing strategy in cross-border M&As, the present study attempts to answer the research question: how do different dimensions and degrees of financial constraints affect U.S. retail MNEs' cross-border M&A financing decisions? Based on cross-border M&As carried out by U.S. retailers during 2002-2014, our findings suggest that abundant cash reserves and large unused debt capability are associated with Cash Only financing. We also find that acquirers are more likely to adopt Debt financing than Equity financing when they face medium to high level of internal constraints and have large unused debt capabilities. Because the majority of our sample are medium to large-sized, established, publicly-listed firms, our data does not support the hypotheses that the validity of pecking order is challenged as the result of credit rationing in the debt markets. The financial crisis is not found to have a significant impact on the choice

between Cash Only and Debt financing. But our data is consistent with the observation that Equity financing was the least likely option to be adopted during the financial crisis. Our study should shed light on retail MNEs' best financing practices based on their financial conditions and should also inform policy makers’ resource allocation decision to help firms survive during economic tough times.

This thesis is dedicated to my two sets of parents and my sister.
Thank you for always believing in me.

ACKNOWLEDGEMENTS

After an intensive period of two years, today is the day to write this note of thanks as the finishing touch on my dissertation. I would never have been able to finish my dissertation without the guidance of my committee members, help from friends, and support from my family.

It takes a village to raise a child, but a team of faculty to raise a Ph.D. and skilled researcher. I would like to express my deepest gratitude to my advisor, Dr. Patricia Huddleston, for her excellent guidance, caring, patience, and open-mindedness. She has been and will remain my role model. I would like to thank my committee members, Dr. Linda Good, Dr. Dawn Pysarchik, and Dr. Hairong Li, with whom I enjoyed intellectually stimulating discussions. They always gave me their best suggestions and patiently corrected my writing. Special thanks go to my former academic advisor Dr. Tamer Cavusgil for his spiritual and fatherly support throughout my Ph.D. study and my two department chairpersons Dr. Richard Cole and Dr. Jef Richards for giving me unconditional trust.

I would also like to thank my friend and mentor, Professor Karl Gude, who has been a constant source of support, love, and inspiration. In addition, a thank you to Amir Chmilevsky for reading through earlier versions of this thesis and providing valuable feedback. To my friends, Peter Briggs, Zeynep Altinsel, Shaowen Ji, Chaoyi Ding, Tao Deng, Jiayin Hu, Kai Qi, and many others who helped me in every way possible. Thank you for always being there for me!

My family have been extremely supportive throughout this entire process and have made countless sacrifices to help me get to this point. My two sets of parents, Mincheng Li and Shuqin Xing, David and Sandra Harley, and my sisters, Juan Li, Huan Meng, Susan Harley and Megan

Leahy, deserve special thanks for always believing in me. With your nurturing love, I become more grounded and learn to embrace being a “little crawler”. No matter where I go or how long I am gone, I will always find a way back my two homes!

I would like to thank Center for International Business Education and Research at George Washington University (GW-CIBER) for their financial support granted through Summer Doctoral Institute fellowship for two years. I would also like to thank my faculty mentor Dr. Jiawen Yang for guiding my research and helping me to develop my background in finance. I would also like to take the opportunity to thank numerous faculty members and staffs at GW-CIBER, Reid Click, Jennifer Spencer, Alexis Gaul and Nevena Yakova for providing us the highest-quality, care-free research environment. Additional financial supports for this research were provided by grants from College of Communication Arts & Sciences (Com Arts) and Center for International Business Education and Research (MSU-CIBER), Michigan State University.

Lastly, I thank Professor Andrew Sherman for permission to include copyrighted figure as a part of my dissertation.

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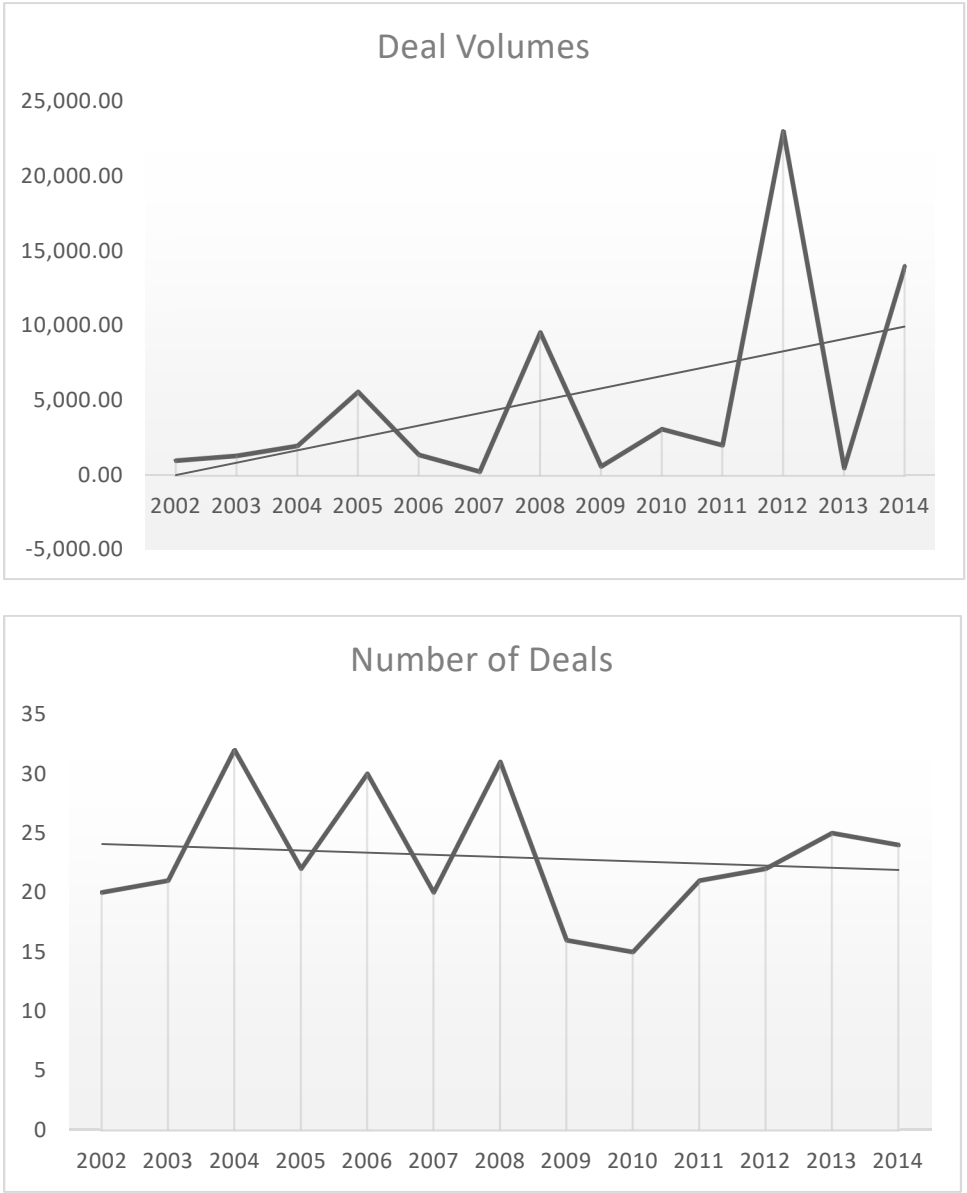
CHAPTER I

INTRODUCTION

Although room for domestic consolidation still exists, retailers in mature retail markets, such as the United States and the UK, increasingly seek to expand into fast-growing foreign markets and drive growth from an expanding international middle class (Downs, Allen, & Roules, 2013; Lorentz, Häkkinen, & Hilmola, 2006). The slow, uneven economic recovery, along with wavering consumer sentiment and stagnant growth in the mature markets after the 2007-2009 financial crisis, reinforced this ongoing trend. Retailing in developed markets was severely hit and continually shaped by the fallout from this crisis. *Global M&A Series Consumer & Retail 2013* observed that western retail companies faced problems from the suppressed home market demands and challenges in expanding in some of the emerging markets (Squire Sanders LLP, 2013). As a result of refocusing on core businesses and reigning in their foreign expansions, Wal-Mart, Tesco, and Carrefour all shut down underperforming units in China during 2011-2012. Carrefour divested its Colombia operations and disposed of additional operations in Indonesia, Malaysia, and Greece in 2012. However, other more positive factors with long-term implications are also at play. Many global retailers look for long-term growth areas for the future and employ mergers & acquisitions (M&As) as an essential strategic tool to fulfill this goal (Downs et al., 2013). Through the acquisition of customers and/or distribution networks in foreign markets, global retailers could obtain valuable resources and build scale and strength faster than they do through organic growth and alliances (Lorentz et al., 2006). On the flipside, compared to organic expansions, cross-border M&As usually involve larger investment scales and greater financial, cultural and political risks, especially under volatile economic

conditions. Yet, as significant components of retailers' foreign expansions, cross-border M&As are gaining importance (Swoboda, Zentes, & Elsner, 2009). Figure 1 illustrates the number of deals and deal volumes of Cross-border M&As undertaken by U.S. Retail MNE's during 2002-2014.

Figure 1 U.S. Retail MNEs' Cross-border M&As (2002-2014)



Data Source: Thomson One Banker M&A Database

The Economist Intelligence Unit (EIU) conducted a global survey, *Cross-border M&A: Perspectives on a Changing World* (Clifford Chance LLP, 2012a) in 2012, six years from the pinnacle of cross-border M&A activities in 2006 and after four years of relatively low deal activities since 2007. This survey explored Multinational Enterprise (MNE) senior executives' perceptions of opportunities and barriers involved in cross-border M&As and their future expansion plans. EIU surveyed 377 respondents across a wide range of industry sectors. Retail and consumer goods (CG&R) (9.5%) was the fourth largest primary industry in the sample, following Energy and natural resources (19.3%), Financial services (19.0%) and Manufacturing (14.0%). Due to the macroeconomic uncertainty in the post-crisis era, it was no surprise to see that retail MNEs focused on strengthening core businesses and took a cautious approach to cross-border M&As. However, in line with other sectors, retail MNEs also sought opportunities to expand their core businesses into high-growth markets. According to the EIU report, 60% of CG&R companies expected their cross-border M&A activity to increase or at least remain at 2012 level. Several other M&A deal-making practice groups (Baker & McKenzie, 2013; KPMG, 2009; PricewaterhouseCoopers(PwC), 2014, 2015) observed the rise of retail global M&A activities and anticipated this trend to remain over the next few years.

The EIU sub-report for the CG&R sector (2012b) reasoned that the optimism surrounding the current outlook for global M&A activity was backed by adequate cash reserves, the result of cost-cutting carried out by companies during the financial crisis, and cheaper financing options. "[M]any retailers have come through the crisis with strong balance sheets and substantial cash reserves reflecting the strong cash generation capabilities within the sector" (2012b, p. 2). According to Clifford Chance's updated report *Our Insights into M&A Trends* (Clifford Chance LLP, 2015, p. 10), "abundant pools of capital and cash reserves" is a key driver of cross-border

M&As. For the US retail sector, *The Next Wave of M&A in US Retail* (Mckinsey & Company, 2010) revealed that leading players in many retail subsectors were cash-rich and that many also had large debt capability. This McKinsey report (2010, p.1) further pointed out that the largest retailers "collectively hold cash balances that surpass the total market value of all midsize retail players." Abundant cash reserves and debt capability led to Wal-Mart's $1.8 billion cash offer acquisition of a majority stake in South Africa's Massmart in 2011(Trefis Team, 2011; Walmart.com, 2010). With this move, Wal-Mart entered the world's fastest growing markets (Kew, 2013).

Although large global retailers tend to keep a cash reservoir to enhance flexibility and to avoid forgoing investment or under-investing in future or more profitable opportunities, an active M&A market still needs diverse sources of capital to fuel deal activity. Even with sufficient cash reserves, many acquirers seek to "tap external finance sources" or even "explore multiple financing options, either individually or in combination" to enhance flexibility (Clifford Chance LLP, 2012a). The retailing industry is no exception. Other than using firms' cash reserves, bank loan is the second most popular fund source due to its relatively low cost, stability, ease of execution and flexibility. Interestingly, the EIU sub-report for CG&R sector (Clifford Chance LLP, 2012b) found differing financing source across regions. The preferred financing source for European retailers remains using a company's cash reserves, while the most popular source is debt financing in North America. It is worth noting that the loan/bank market tends to favor high-quality borrowers and assets. Small and Medium Enterprises (SMEs) or young companies without established relationships with banks may not have access to bank loans. Equity financing is for 'share for share/stock for stock' transactions (Chandra, 2011). Using equity to finance acquisitions may pose significant valuation challenges for acquirers and targets alike due to

capital market imperfection and information asymmetry. Equity financing may also affect the timing of transactions due to the documentation requirements and public/regulatory scrutiny (Clifford Chance LLP, 2012a).

Two recent transactions showcased global retailers' choice to tap the loan market and/or the equity market to fund their acquisitions. On December 31, 2014, the largest U.S. drugstore chain Walgreens completed its two-step acquisition of the UK-based pharmacy-led health and beauty group Alliance Boots for about $22 billion in cash and common stock. The acquisition will significantly expand Walgreens' international presence. The combined entity, Walgreens Boots Alliance Inc. (WBA), spans over 25 countries with more than 12,800 stores and over 370,000 employees (Walgreensbootsalliance.com, 2014). Burger King, the US-based food chain, merged with Canada's 'Starbucks' Tim Hortons to form the world's third-largest fast-food company. The company now runs over 18,000 restaurants in about 100 countries. To fund the deal, Burger King secured C$12.5 billion financing, including C$9.5 billion via debt financing package led by JP Morgan and Wells Fargo and C$3 billion via preferred equity financing from Warren Buffett, CEO of Berkshire Hathaway (Ro, 2014). Of the two transactions, Walgreens used cash and equity financing, while Burger King used a combination of debt and equity financing.

Why did Wal-Mart, Walgreens, and Burger King choose different financing source (and payment method) in their cross-border acquisitions? The Pecking Order Theory of capital structure is traditionally used to explain firms' financing decisions. In their seminal piece, Myers and Majluf (1984) posited that businesses preferred to use their internal funds before considering external financing (debt and then stock). When capital markets are perfect and complete, internal or external funds are perfect substitutes for each other. Therefore, it is irrelevant whether an

investment is financed with internal or external financing (Modigliani & Miller, 1958). When a firm can obtain the required amount of external funds at a cost equal to that of its internal capitals, its financial constraints condition is irrelevant for obtaining the required funding (Pardoel, 2011). Pecking Order Theory challenges the perfect market and complete information assumptions. Under the imperfect capital market assumption, the cost of external financing exceeds that of internal funds for various reasons, such as information asymmetry among various market participants and/or financial market distress (Myers & Majluf, 1984), transaction costs, tax regulations, and agency problems (Jensen, 1986; Jensen & Meckling, 1976). According to Myers and Majluf (1984), information asymmetry exists between corporate insiders (who possess greater material knowledge of their businesses than other parties do) and external investors. Brealey, Leland, and Pyle (1977) considered information asymmetry a primary reason for the existence of financial intermediaries, such as commercial banks, investment banks, and asset management companies. Information asymmetry exists in all takeover deals because targets have an informational advantage over acquirers and financial intermediaries (Boeh, 2011). The degree of information asymmetry is particularly high in cross-border deals. Financial performance and capital structure signal the value of a project or firm when information asymmetry occurs. A similar argument can be made to explain the information and valuation role of a firm's financial constraints status in determining its available financing options and external financing costs.

However, the strict ordering of financing options is inconclusive. Several studies (Almeida, Campello, & Weisbach, 2004; Denis & Sibilkov, 2010; Faulkender & Wang, 2006) provided evidence of the violation of Pecking Order Theory. Financially constrained firms hold more cash on average and save more cash out of their cash flows than less constrained firms.

Despite the high costs of debt and equity financing and no shortage of internal capital, these financially constrained firms choose to raise funds in capital markets. The presence of financial constraints potentially holds important implications for corporate investment decisions, as they not only limit investments that firms would otherwise make, but also influence firms' financing decisions when they choose to pursue investment opportunities. Chang and Song (2013) claimed that Pecking Order Theory ignores two imperative market imperfections (debt market and supply side) and should be conditional on firms' financial constraints.

Fazzari, Hubbard, and Petersen (1988) (FHP hereafter) were the first to document that firms facing severe financial constraints relied more on their internal funds to finance investment projects. The authors concluded that more financially constrained firms display higher investment-cash flow sensitivity than less constrained firms. FHP attributed firms' preference for internal financing to the higher cost of external financing and thus lent support for Pecking Order Theory. However, Kaplan and Zingales (1997) and Cleary (1999) (KZ/Cleary hereafter) provided contrary evidence and challenged the generalizability of FHP's conclusion by reexamining the financial structure of firms in FHP's low-dividend sub-sample. Using information from major financial statements, KZ/Cleary found firms that had easier access to external funds relied more on their internal funds, which violated Pecking Order Theory. This debate centered on the measurement of financial constraints (Guariglia, 2008). Cleary, Povel, and Raith (2007), Guariglia (2008) and Hoberg and Maksimovic (2015) attempted to distinguish different dimensions of financial constraints and to examine their effects jointly and separately. According to Guariglia (2008), FHP measured External Financial Constraints that firms face with dividend payout ratio, a proxy for information asymmetry effects and difficulties in obtaining external capital. Most studies along FHP's line measured financial constraints using

external constraints criteria such as firms' size, age, bond rating, dividend payout ratio and/or access to commercial paper. KZ/Cleary and the majority of studies in line with KZ/Cleary instead used Internal Financial Constraints criteria that are related to the availability of internally generated funds. In addition to the Internal vs. External Financial Constraints distinction, Hoberg and Maksimovic (2015) further separated Debt-focused from Equity-focused External Financial Constraints in predicting investment decisions. The volatility of the capital market adds another layer of external Macro-economic Financial Constraints on firms (Chang & Song, 2013).

Pecking Order Theory and the general discussion of the effects of financial constraints on firm investment were extended to study payment method and financing source in Cross-border M&As. Cross-border deals often require a large amount of capital and put higher financial burdens on acquirers. Also, based on the market imperfection hypothesis, a cross-border M&A deal is exposed to significantly more information frictions (uncertainty) than other forms of investment (e.g., portfolio equity and debt securities) (Daude & Fratzscher, 2008) and domestic M&A transactions (Y.-R. Chen, Huang, & Chen, 2009). Greater risk and less information transparency exist when there is a long geographic distance between the acquirer and target and when uncertainty about the target and host country is great. Furthermore, given the high capital requirement for cross-border M&A deals, acquiring firms usually do not have adequate internal cash available to finance the entire transaction. Based on the discussion above, cross-border M&A acquirers are more likely to face financial constraints than other forms of investment and domestic deals.

We have seen MNEs making use of various capital resources to fund their overseas expansion when facing different levels and dimensions of financial constraints. While some cases follow pecking order predictions, others do not. Martin (1996) found support for Pecking

Order Theory in the M&A context and maintained that an acquirer was less likely to choose stock payment when it had more cash available, meaning an acquirer considered external financing only when they did not have adequate internal funds. While Alshwer, Sibilkov, and Zaiats (2011)'s observation contradicted Pecking Order Theory, they noted that the high cost of raising debts and preference for a capital buffer to reduce future financing uncertainty forced debt-market constrained acquirers to raise capital in the stock market even when they have adequate cash on hand. This was especially true for acquirers lacking access to debt financing but with high growth opportunities. In another violation of Pecking Order Theory, healthy, large firms with sufficient capital and liquidity resources tend to explore external funding sources during an economic crisis (Pinkowitz, Sturgess, & Williamson, 2013).

The literature provides no consensus on the effects of financial constraints on M&A payment method and/or financing source choice. These examples of obvious violations of the Pecking Order Theory and inconsistent findings clearly suggest that the exact M&A financing source/payment method decision varies with combinations of different financial constraints dimensions and may also depend on other factors associated with competing theories (Trade-off Theory and Marketing Timing, etc.). Despite a wide range of topics that retail internationalization studies cover, there is a lack of empirical focus on financing strategies in the international retail expansion literature (some exceptions: Wrigley (2000a); Wrigley and Currah (2003); Okeahalam and Wood (2009)). Thus, the purpose of this study is to test Pecking Order Theory in the context of retail cross-border M&As and to reconcile contradictory findings in existing literature, by examining the role of financial constraints in determining acquirers' financing source.

Effective, timely financing decision could enable retailers to capture opportunities that would otherwise be forgone. More importantly, an acquirer's M&A financing strategy may sequentially influence its future cash flows, financial leverage, subsequent financial decisions, ownership structure and profits of both acquirer and target (Faccio & Masulis, 2005). The financing decision may also raise corporate control, risk bearing, and dividend concerns of the shareholders. Given the substantial presence of financial constraints and the importance of financing strategy in cross-border M&As, the present study should shed light on retail MNEs' best financing practices based on their financial conditions in cross-border M&As. Meanwhile, by examining the effect of macroeconomic volatility on firm behaviors and by identifying firm-years that are most likely to be subject to the adverse impact of financial crisis, we should inform policy makers' resource allocation decisions in helping firms survive and thrive through tough economic times.

Our contributions to the international retailing and cross-border M&A literature are fourfold: 1) we explored a minimally examined, yet important topic in the international retailing literature, financing strategy in MNEs' foreign expansions; 2) we focused on one important determinant of financing decision, financial constraints, and tested Pecking Order Theory across different dimensions and degrees of financial constraints; 3) we attempted to reconcile previous research findings by developing a multi-dimensional approach to measuring firm-level financial constraints (internal, debt-focused, equity-focused) and examine their joint effects on cross-border M&A financing decision; 4) our measurements reflect the uniqueness of retail industry.

We studied only one single home country, the U.S., for the following reasons. First, it is easier to pinpoint the onset and key stages of the 2007-2009 financial crisis by focusing on one country (Elliott, 2011; Marriage & Madison, 2015). Second, U.S. retailers are very active in

cross-border M&A activities. U.S. is a typical mature retail market. Its domestic market is saturated. Over the past 20-30 years, the amount of domestic retail space has grown four times faster than the overall population (Mckinsey & Company, 2010). Therefore, U.S. retailers have been looking outward for opportunities.

The remainder of this paper is laid out as follows. In Chapter 2, after a review of the retail internationalization literature, we point out that more attention should be given to retail MNEs' financing strategies. Then, we provide an economic background for our study by reviewing the literature on Pecking Order Theory of capital structure, Financial Constraints and M&A Payment Method and Financing Source. In Chapter 3, we present the conceptual model and develop the hypotheses. Chapter 4 contains a description of our data set, measurement, and model specification. Chapter 5 discusses the results of our analysis. Chapter 6 summarizes our main findings, discusses managerial implications and also lays out the direction for future research.

CHAPTER II

THEORY BASE AND CONCEPTUAL UNDERSTANDING

To build our conceptual framework, we review the pertinent international retailing and corporate finance literature, particularly financial constraints and M&A payment method decision in this chapter. We begin with an overview of the role of global retailers in globalization, the scope of retail internationalization research and retail MNEs' foreign market entry mode choice, particularly cross-border M&As, followed by a discussion of financing practices in retail cross-border acquisitions. In the second section, we introduce Pecking Order Theory of capital structure as our starting point for further discussion. Drawing upon Pecking Order Theory, we then establish the relevance of financial constraints (FCs) in determining investment decision and financing strategy. We document previous research efforts to reconcile inconsistent findings. In the last section, our review on M&A payment method and financing source show that empirical evidence of Pecking Order Theory is mixed.

International Retailing and Retail Cross-border Mergers & Acquisitions (M&As)

The Role of Retail MNEs in Globalization

Traditionally, internationalization studies view the globalization process from a global production network (GPN) perspective (Henderson, Dicken, Hess, Coe, & Yeung, 2002). That is, the focus of these studies is on production and manufacturing activities (Blomstermo & Sharma, 2003; Calori, Atamer, & Nunes, 2000; Dunning, 1993, 1995) rather than retail distribution activities. Most existing literature assumes that the findings in these studies are equally relevant to retail and manufacturing sectors (Dawson & Mukoyama, 2006). Although Hess and Yeung (2006) extended the concept of GPN to incorporate 'service industry' (e.g., finance, logistics,

retail), the distribution functions of globalization discourse are ignored. Only fragmentary studies address the sourcing/distribution aspect of globalization. As examples, there are studies involving European and North American retailers and their East Asian suppliers or their agricultural producers on other continents (Barrett, Ilbery, Brown, & Binns, 1999; Coe & Hess, 2005; Dolan, 2004; Fold & Pritchard, 2005).

However, retail internationalization has "two interlinked and overlapping dimensions", store development and sourcing (Coe & Hess, 2005, p. 449). An analysis of retail internationalization requires integrating studies of store operation with those of sourcing within the framework of globalization. Driven by retailers' growing expansion into foreign markets, more research in the past decade has been conducted on retail MNEs and aspects of their international expansion such as motives, market selection, market entry strategy, adaptation, and formats (large food retailers and small, niche retailers). As a result, the relevance of solely production-based internationalization theories is questioned and raises a debate about the applicability of international business theories to retailing (Dawson, 2007; Wrigley, Coe, & Currah, 2005).

Dawson, Larke, and Mukoyama (2006) argue that the generalizability of production-based International Business theories lies in the extent to which the retail and manufacturing sectors are similar or fundamentally different. Dawson et al. (2006) and Dawson (2007) identified aspects of international retailing that are distinct from production. There are notable features of retailing that make a retail MNE's internationalization process more uncertain and more likely to be subject to information asymmetry. First, the strategic objectives of retail internationalization are to increase sales and ensure firm growth (market seeking), while manufacturing firms are more likely to be driven by cost reduction (Dawson, 2007; Dawson &

Mukoyama, 2006). We then witness an interesting phenomenon: many global retailers chase after the rising, affluent middle class in emerging markets, while manufacturing companies prepare to leave due to the rising labor costs in many emerging markets. However, many of the fastest growing retail markets are developing economies with less developed securities markets and weaker accounting standards and regulatory frameworks than more mature economies. Second, the openness of retail operations allows easy, direct price comparison and easy copying of knowledge and intellectual capital, thus triggering more competitive responses in retailing than in manufacturing (Dawson & Mukoyama, 2006). Third, retail internationalization is embedded in the local nature of the host market, while manufacturing is less concerned about local elements such as local consumer cultures and buyer behavior. Such situational aspects of consumption require retailers to have a deep understanding of the local market which can be very different from the home market (Dawson & Mukoyama, 2006). Fourth, retail MNEs face more market imperfections than manufacturers, such as regulatory interventions from public agencies on land use and location restrictions, licensing, relationships with suppliers, even items for sale and trading hours (Dawson & Mukoyama, 2006). Local monopolies are also more likely to rise due to the incumbent advantage and spatial dependence nature of retailing. Last, asset intangibility is another important aspect that sets retailing apart from manufacturing (Doherty, 1999; Swoboda et al., 2009). A unique feature of retailing is the presence of significant intangible assets, such as managerial technology, brand names and retail formats. An information asymmetry problem becomes acuter in the retail sector due to the significantly larger amount of intangible assets (Doherty, 1999). All the aforementioned factors put the retail industry in a position that is more likely to be subject to the effects of uncertainty and information asymmetry,

which is directly related to the concept of financial constraint and thus is relevant to the current study.

Further, the large number of suppliers and consumers influence retailers' cash generating process (Dawson & Mukoyama, 2006). While a manufacturer's product is an item, a retailer's offering is the whole sales outlet, a bundle of services designed for a specific local environment. Retail firms have a high level of asset specificity (inter-party relationships of a transaction). Therefore, intra/inter-firm relationships and network efficiencies are more important for retailers than manufacturers. For manufacturers, operational efficiencies within each production unit are more of a concern. Some aspects of retailing are without equivalence in manufacturing, such as the complexity and frequent changes of assortment, large numbers of transactions, dynamic relationships with a large number of suppliers and high level of contact with consumers (Swoboda et al., 2009).

This network structure of the retail industry makes its cash-generating process different from the manufacturing industry. In general, payments are collected from consumers before payments go to suppliers. Therefore, the cash conversion cycle (CCC) is the key metric of a retailer's cash-generating process. According to *At Amazon, It's All About Cash Flow*, the cash conversion cycle (CCC) is defined as the "days of inventory plus days sales outstanding (how long it takes your customers to pay you), minus how many days it takes you to pay your suppliers" (Fox, 2015). The author used Amazon and Apple as examples to demonstrate how important the cash conversion cycle is from the perspective of cash generation. Amazon's continued explosive growth and investments primarily rely on its cash, rather than on bank loans or stock issue. Last year Amazon had an average CCC of - 30.6 days, which is a relatively large negative CCC. In other words, all the cash inflows arising from consumer payments remain with

Amazon for 30.6 days before going out to the suppliers, which makes it possible for Amazon to abound in cash for expansions and acquisitions. According to Fox (2015), Apple had an even longer CCC, -44.5 days. In contrast, super-efficient retailers (e.g., Walmart and Costco) brought their CCC down to the single digits. We are not suggesting that a long CCC is representative of the entire retail industry or that all the suppliers will favor this practice. Amazon's case simply implies that retailers may have more space to fine-tune their cash generation machine. But to do so, good inventory management is a prerequisite.

From an accounting perspective, the network structure of the retail industry makes the capital structure of a retailer distinguishable from that of a manufacturer (Dawson & Mukoyama, 2006; Swoboda et al., 2009). Trading with a large number of suppliers and selling the goods to consumers before payment is made to suppliers often allows retailers to operate even with a negative working capital. The purchase of a large stock of inventory may keep the level of free cash flow low. Therefore, by delaying the payments to suppliers and keeping a high balance of accounts payable, retailers "borrow" money from suppliers at no cost for a certain period and operate under negative working capital when current liabilities (e.g., accounts payable) exceed current assets (e.g., account receivable). The availability of short-term funds at zero cost gives retail MNEs more flexibility in operations and investments. Dawson and Mukoyama (2006) observed that negative working capital started to characterize France’s retail sector in 1994, which effectively frees capital and provides financing for international expansion. For some large retailers, current liabilities may be even higher than current assets. Negative working capital and smaller-than-asset current liabilities are not only unusual practices for manufacturers, but they also signal financial instability to the capital market and cause alarm to management. However, retailers actively seek these conditions, especially in an international context, where a

large amount of capital is committed. Therefore, negative working capital does not necessarily indicate internal fund drainage for a retailer.

But it is worth noting that the level of cash flow and working capital vary considerably across sub-sectors. Intuitively, mail order or internet retailers have a very different cash flow level than kiosks, hypermarkets, specialty shops, or convenience stores. Apparel retailers may have significantly different cash flow characteristics than food & beverage, home improvement, automotive or computers & electronics retailers. We will consider these factors in our empirical model.

In sum, these differences between manufacturing and retailing "have impact on the nature of the internationalization process in the two sectors and in turn affect the extent to which academic ideas are transferable from manufacturing based studies to studies of retailing" (Dawson 2007, p. 387). Therefore, we argue that retailers should be treated differently from manufacturers to the extent that they are subject to information asymmetry, their cost/capital structure, and the criteria to define their financial status. García-Feijóo, Madura, and Ngo (2012) further pointed out that while industry characteristics are ignored in the M&A payment method determinants literature, they could affect M&A payment method and thus should be studied.

Cross-border M&As in the Retail Industry

Scope of Retail Internationalization research

The rapid foreign market expansion of retail MNEs has attracted interdisciplinary interest from economic geography, business, management and social sciences (Coe & Wrigley, 2009; Swoboda et al., 2009; Wrigley & Lowe, 2007). Retail internationalization literature has examined many facets of global retail expansion. For instance, researchers explored motives for international expansion (Alexander, 1990; Y.-F. Chen & Sternquist, 1995; Evans, 2008);

international strategy and processes (Sternquist, 1997; Swoboda, Foscht, & Cliquet, 2008; Treadgold, 1988); organizational learning and knowledge transfer (Currah & Wrigley, 2004; Jonsson & Elg, 2006); market selection and standardization/adaptation (Aoyama, 2007; Coe & Wrigley, 2007; Evans, 2008; Wrigley et al., 2005); global and regional sourcing (Coe & Hess, 2005; Hughes, Buttle, & Wrigley, 2007) and performance and failure (Alexander & Quinn, 2002; Arnold, Flaherty, Voss, & Mowen, 2009; Burt, Dawson, & Sparks, 2003, 2004; Palmer & Quinn, 2007). Among this wide variety of topics, market entry mode, particularly cross-border merger and acquisitions (M&As), is the most relevant to our study.

Market Entry Mode and Cross-border M&As

Market entry mode choice is a critical strategic decision in internationalization and it influences the success of foreign operations. Market entry mode may take the form of a wholly owned subsidiary, joint venture, franchise, or mergers and acquisitions (M&As). A rich tradition of research in International Business literature examines entry mode choice as a major strategic decision in firms' internationalization process. However, this issue remains under-addressed in international retailing (Doherty, 1999) and does not "come up to the standards of general international business research, either theoretically or methodologically" (Swoboda et al., 2009,p.113). Also, most empirical studies in this area are descriptive. The conceptual studies are not confirmed empirically, as pointed out by Swoboda et al. (2009).

We identify three lines of literature on market entry mode choice. The first line of research observes the trends and patterns of retail MNEs' market entry mode choice. Burt (1991; 1993) noted that British grocery retailers switched market entry strategy from acquisitions to wholly owned subsidiaries after the late 1980's. Gielens (2001) observed that a subsidiary was the prevalent market entry mode for grocery retailers during 1988-1998 and that it was

associated with better long-term performance compared with other entry modes such as acquisitions (M&As) and joint ventures (JVs). Vida (2000) found that US non-food retailers preferred a broader portfolio of market entry modes than fashion retailers. Lessassy and Jolibert (2002) suggested that food retailers employ differentiated market entry strategies when entering host countries with different geographical and cultural distance. However, other research (Alexander, 1990; Swoboda, Schwarz, & Hälsig, 2007) revealed that larger grocery retailers prefer to use a single market entry mode, rather than a portfolio.

The second line of research examines the determinants of market entry strategy choice. Ahmed, Mohamad, Tan, and Johnson (2002) found that low-risk perception led to high control entry mode and vice versa. Although the result was significant and consistent with the general international business literature, the sample size was small (69 public Malaysian MNEs) and only 1/4 of the sample was retailers. Using a small European food retailer sample (N=25), Lessassy and Jolibert (2002) showed that geographical and cultural distance influenced market entry mode. Doherty (1999) highlighted the role of information asymmetry in deciding retail MNEs' entry mode choice. Doherty (2000) studied the foreign entry market strategies of seven UK fashion retailers. The author observed that market entry mode strategy evolved over time as a result of "historical, financial, opportunistic, experiential and company-specific" factors (p. 237). Picot-Coupey (2006) showed that desires for flexibility, knowledge transfer, resource commitment and control were key determinants of market entry mode. Huang and Sternquist (2007) emphasized the importance of institutional environment (regulative, normative and cognitive dimensions) in market entry choice. Picot-Coupey, Burt, and Cliquet (2014) examined both foreign market entry and subsequent expansion mode of 43 French fashion retailers and found that retail MNEs' foreign market entry mode choice decisions were based on factors, such

as the firms' international marketing plan, the perceived attractiveness of the host markets and the firms' "strategic and ownership condition" (p. 986).

The third research line deals with specific market entry modes, such as franchising, Joint Venture (JV) and M&A. Burt and Mavrommatis (2006) and Okeahalam and Wood (2009) noted that fierce competition from the incumbents forced first tier retailer MNEs to abstain from organic expansion, which normally required a lengthy initial period, as an entry mode. Therefore, retail MNEs often pursued M&As or joint ventures before initiating the organic store-by-store approach, because the former allowed them to gain scale and market position more quickly in an unfamiliar and challenging environment (Okeahalam & Wood, 2009). Other motives for conducting cross-border M&A include gaining size (Wrigley, 2002), greater buying power (Dragun and Howard (2003) and cost saving potential (Wrigley, 2000b). Other research investigates value generating effects (Dragun, 2002; Dragun & Howard, 2003) and the consequences of M&As (Poole, 2003; Wrigley, 1997a, 1997b). After reviewing previous sector-focused M&A studies (banking, retail, US brewing and air carrier industries, etc.), Dragun and Howard (2003) concluded that sector specifics play an important role in determining the financial performance of M&As and that studies that are too general do not inform practitioners.

More recent studies call on a process-based approach to study retail internationalization. Picot-Coupey et al. (2014) criticized existing research for considering entry mode choice from a static view that analyzed only the initial entry mode choice while ignoring the dynamic and ongoing nature of international retail expansion. Based on the fact that retail MNEs usually initially enter foreign markets through small-scale trials before progressively expanding their operations, Picot-Coupey et al. (2014) extended extant research by investigating the paths of

initial market entry and subsequent expansion modes of global retailers. But “research in retail internationalization as a process-based phenomenon has just begun” (Xun, 2010, p.469).

Financing, Capital Structure and Their Implications in Cross-border M&As

Despite the increasing attention given to international expansion by leading retail MNEs, retail internationalization research has focused on the “descriptive questions of the 'what', 'where' and 'how'”, “leaving many of the analytical 'how' questions unanswered and the 'strategic aspects of sustaining internationalization' even less examined” (Jackson & Sparks, 2005,p 767; Xun, 2010 , p 469). How to manage the investment and minimize strategic risk by choosing the right entry method is a key issue. However, selecting a financing mechanism and structure is also a crucial and integral part of the strategic concern. Financing includes “…sourcing, allocation, management, control and profiling of monetary assets and risk” (Okeahalam & Wood, 2009,p.517). There is a lack of empirical focus on financing strategies in the international retail expansion (see Wrigley (2000a), Wrigley and Currah (2003) and Okeahalam and Wood (2009) for exceptions).

Funding sources and capital structure form the basis for firms’ competitive strategies. Strategic management literature outlines the linkage between funding mechanisms, capital structure, and corporate strategy. O'brien (2003) pointed out that inappropriate capital structure might hinder the effectiveness of firm strategy and ultimately, its ability to compete. Given the importance of funding mechanisms and capital structure in retail MNEs' international expansion, understanding retailers' financing decisions should be a key concern for international retailing scholars. Based on this assumption, we aim to contribute to retail internationalization literature by integrating knowledge from corporate financing strategy.

Given the importance of the financing strategy and capital structure decision, the challenge in financing a particular M&A transaction lies in determining the ideal funding source (or mix). Okeahalam and Wood (2009) argued that firms at a "global" phase of their growth raised significant external capital for expansion and that if a capital market lost confidence in these firms, it could be disastrous and might lead to divestments and retreats from the foreign markets. They studied a second tier, an African retail MNE's (Shoprite) international expansion process, and found that Shoprite increased its use of internal capitals and simultaneously reduced debt levels, which led to long-term debts' decline. According to the authors, Shoprite's preference of internal funding to debt and use of limited equity issuance as a last resort can be partially attributed to unavailability of debt funding from local banks when Shoprite was expanding to foreign markets through either organic or acquisition growth. This preference for using internal resources was also interpreted as reluctance to dilute shareholder returns. Palmer and Quinn (2003) found that working capital consisted of much of the funding for retail MNEs' organic expansions, with minimal debt or equity financing.

Pecking Order Theory

Overview of Capital Structure Theory

Capital structure research studies the mix of securities and financing sources used in firms' investments, for example, the proportions of debt vs. equity. The famous Modigliani-Miller Theorem (1958) is considered the cornerstone of the modern capital structure theory. This theorem posits that, in a perfect market, the value of a firm and the cost or availability of capital are unaffected by the choice between debt and equity financing. This capital-structure irrelevance proposition is based on some key assumptions: no taxes, no bankruptcy costs, no transaction costs, and information symmetry. Many finance economists challenge these

assumptions to explain the drivers of capital structure decisions and to inform firms' financing practices. For example, Myers (2001) analyzed three conditional capital structure theories (Trade-off Theory, Free Cash Flow theory, and Pecking Order theory) and concluded that no universal theory of the debt-equity choice existed. Trade-off Theory emphasizes the tax advantages of debt for tax-paying companies; Free Cash Flow Theory emphasizes agency costs for mature firms that tend to overinvest; Pecking Order Theory emphasizes financing cost differences due to asymmetric information. After analyzing pros and cons of four major capital structure theories (Pecking Order, Trade-off, Signaling and Market-Timing), Miglo (2010) concluded that none of the capital structure theories alone is able to explain the complex facts about firms' financing behavior and that incorporating alternative theories increases the accuracy of predictions. Pecking Order Theory is the most relevant capital structure theory regarding the relationship between financial constraints and firms' financial policies, because of information asymmetry, Pecking Order Theory's underlying assumption, is the major cause of financial constraints. Therefore, Pecking Order Theory serves as our starting point to explore financing decision in cross-border M&As.

Information Asymmetry and Pecking Order Theory

Pecking Order Theory identifies three financing sources: internal funds, debt and new equity and proposes that companies prioritize their financing sources in the order of internal financing, then debt, and lastly issuing equity as a "last resort" due to information asymmetry and adverse selection (Myers, 1984; Myers & Majluf, 1984). Pecking Order Theory can be translated to the following statements: 1) firms always prefer internal financing to external financing; 2) when external financing is necessary, firms prefer debt to equity and borrowing to issuing equity (Myers, 2001; Shyam-Sunder & Myers, 1999).

The asymmetric information assumption is the essence of Pecking Order Theory. Contrary to Modigliani and Miller (1958) which held perfect capital market assumption and capital structure irrelevance proposition, Myers and Majluf (1984) assumed that the capital market was imperfect and market information was asymmetric. They proposed that financing costs increased with the degree of asymmetric information that investors faced in the capital market. Therefore, financing decisions and capital structure matter because internal and external funds are not perfect substitutes for each other. Under such circumstances, the cost of external financing exceeds the cost of internally generated funds. Thus, internal financing is always preferred over external financing (Myers & Majluf, 1984).

While some studies (Jensen, 1986; Jensen & Meckling, 1976) showed that transaction costs, tax regulations, and agency problems were possible causes of the higher cost of external financing, Myers and Majluf (1984) attributed it to a higher level of asymmetric information and/or the cost of financial distress in the capital market. Due to the various degrees of information asymmetry between management and different market participants, financing costs differ by source of funds. Internal financing involves no information asymmetry and thus has an advantage over costlier debt or equity financing. Therefore, a firm with adequate internal funds will use its' own resources for investment. When a firm runs short of internal funds, it will either forgo the investment opportunity or finance the project by issuing debts or stocks externally. In other words, external financing is driven by a shortfall of internal funds. Firms can obtain the required amount of external funds at a cost equal to the opportunity cost of their internal funds. Pecking Order Theory suggests a negative relationship between internal funds and the demand for external financing (Almeida & Campello, 2010). When external financing is needed, firms

prefer debt to equity because the equity market involves the highest information costs. As a result, firms follow a strict, hierarchical ordering of financing choices.

Martin (1996) empirically supported Pecking Order Theory, finding that an acquirer was less likely to choose stock payment when it had more cash available. In a study of 157 publicly traded American firms (1971-89), Shyam-Sunder and Myers (1999) results strongly supported Pecking Order Theory. Myers (2001) observed that most investments by U.S. nonfinancial corporations were financed by internal funds, with external financing (mostly debt financing) covering only 20% of the total investment.

While some studies supported Pecking Order Theory, other empirical evidence contradicted Pecking Order Theory predictions. Frank and Goyal (2003) and Fama and French (2002, 2005) found support for large firms, but suggested that Pecking Order did not apply for small and high-growth companies, which were more likely to be subject to information asymmetry and external financial constraints. Pecking Order Theory assumes that a greater extent of asymmetric information reduces firms' incentive to finance externally and especially to issue equity. Based on this assumption, large firms should have more incentive to finance externally and issue equity than small firms, since they get better coverage by equity analysts and face the least severe information asymmetry problem. However, Frank and Goyal (2003) found that publicly traded American firms during 1971-1998 revealed much more external financing than expected and that equity issuance surpassed debt issuance. The authors explained the discrepancy by pointing out that previous research (Myers, 2001; Shyam-Sunder & Myers, 1999) did not account for the significance of publicly traded small, unprofitable firms, particularly during the 1990s.

Halov (2006) introduced a dynamic financing decision model by claiming that the choice of equity depended on not only the current cost of issuing equity but also the future information environment and firms' future financing needs. Building on Pecking Order Theory, Halov (2006) agreed that debt was always preferred over equity in a one-period, static model. But current debt issues might subject future equity issues to more severe information asymmetry problems and under such circumstances, firms chose to issue equity. Halov and Heider (2011) argued that asymmetric information about risk also played a role in financing decisions. They reasoned that when issuing debt, young small firms did not face a more severe asymmetric information problem than large mature firms, but a different asymmetric information problem. Investors being less informed about future investment risks associated with small young firms led to the dominance of equity over debt financing. Debt financing was preferred over equity only when information asymmetry about future risks did not exist. Chang and Song (2013) provided another explanation for young, small firms' choice of issuing equity. Small firms are usually associated with low internal funds and profitability, which makes access to the debt market impossible or extremely costly. But the strong growth that some small firms demonstrate makes them attractive candidates for equity market investors. Financial constraints account for two market imperfections missed by Pecking Order Theory: credit rationing in the debt markets and the frictions from the supply side of the capital. After controlling for financial constraints, Chan & Song's (2013) findings were consistent with Pecking Order Theory's predictions. The authors concluded that small and high-growth companies' choices to issue equity reflected the external financial constraints that they faced. Using a simulation experiment, Leary and Roberts (2010) showed that Pecking Order Theory accurately predicted 77% of their sample firms' financing decisions between internal and external financing, but only 17% between debt and equity when

assuming that firms maintained constant cash reservoirs and debt capacities. By allowing debt capacities to vary with factors from alternative theories (e.g., Trade-off Theory), the authors found that the predictive accuracy of Pecking Order Theory increased significantly. Miglo (2012) analyzed the debt-equity financing choice for a two-stage investment process and found that informational asymmetry played an important role in debt-equity choice. When the extent of information asymmetry about a firm's value was large and information asymmetry about profit profiles over time (growth) was small, debt dominated equity issuing. However, when the extent of information asymmetry about a firm's value was small and information asymmetry about profit profiles over time (growth) was large, high-value firms chose to issue equity. These findings can help to explain why firms in fast-growing, high uncertainty industries violated Pecking Order Theory. As Myers (2001) pointed out, capital structure theories are conditional. Mixed empirical evidence showed that Pecking Order Theory is no exception.

Financial Constraints (FCs)

Information Asymmetry and Financial Constraints

Several versions of financial constraints definitions exist. Lamont, Polk, and Saa-Requejo (2001, p. 529) defined financial constraints as frictions that “prevent the firm from funding all desired investments”. The inability to fund investment projects could be due to "credit constraints or inability to borrow, inability to issue equity, dependence on bank loans, or illiquidity of assets" (Lamont et al., 2001,p. 529). Fazzari et al. (1988) defined firms as financially constrained if the cost of external funds relative to the cost of internal funds is so high that firms have to forgo profitable projects. Kaplan and Zingales (1997,p. 172) broadly defined financial constraints as when firms "face a wedge between the internal and external costs of funds". By this definition, any firm can fall into the constrained group under capital market

imperfection. Thus, the relative difference in the degree of financial constraints becomes more relevant in empirical studies.

Finance researchers identified asymmetric information as a major potential cause of financial constraints under Pecking Order Theory. Krasker (1986) extended Myers and Majluf's (1984) work on corporate financing under information asymmetry. He argued that investors and the market (outsiders) interpreted stock issues unfavorably when they were not as well informed about a company's value as the management (insiders) were. These outsiders' interpretations are based on the assumption that management has insider knowledge of the value of the company's existing assets and, for the sake of current shareholders' interests, would not be willing to issue more stock when the company's value is high. Further, the market interprets larger stock issues even more unfavorably than smaller ones. Therefore, the stock price should be inversely related to issue size. The total proceeds of the issue (product of share price and issue size), is bounded, meaning that the total amount of funds raised by issuing stocks has an upper limit regardless of the issue size. This condition is called "Equity Rationing", a very similar concept to financial constraints. Under such a circumstance, the company is forced to underinvest. Krasker (1986) showed that counter-intuitively, most foregone investment opportunities were sufficiently good rather than the opposite as assumed. Other possible causes of financial constraints include, but are not limited, to moral hazard, transaction costs, and debt overhang.

Financial Constraints and Firm Investment

Two lines of research focused on the impacts of financial constraints on investment. Fazzari et al. (1988) (FHP hereafter) proposed that changes in cash flow determined capital expenditures in financially constrained firms. Later works, such as Almeida et al. (2004), Faulkender and Wang (2006) and Denis and Sibilkov (2010), supported this line of research. On

the other hand, Kaplan and Zingales (1997) (KZ hereafter) showed opposite findings by reexamining a sub-sample from FHP and using a different indicator of financial constraints. Cleary (1999) found support for KZ's study in a broader sample (KZ/Cleary hereafter). Guariglia (2008) divided these two groups of research by the different criteria used to measure financial constraints, FHP (external financial constraints) and KZ/Cleary (internal financial constraints). Although we acknowledge the foundational role of financial constraints measures, we argue that Guariglia's classification system is oversimplified because KZ's classification theme captures both internal and external financial constraints. Thus, we suggest classifying the two lines of literature by the nature of investment-cash flow relationship: Monotonic vs. U-shaped. While the former line of literature supports Pecking Order Theory, the latter finds violations of the strict hierarchical ordering of financing options.

Monotonic Investment-cash flow Relationship

As the first to study the role of financial factors in corporate investment decisions, FHP pointed out that investment scale may depend on internal fund availability and access to new debt or equity markets. Due to capital market imperfection, it is very costly (if possible) for external investors to evaluate a firm's investment opportunity. As a result, financing through new debt and equity may cost substantially more than funds from cash flow or retained earnings. For conventional, representative firms or well-known, mature companies with positive prospects, their financial structure may be irrelevant to external financing costs. But for most companies, financial structure matters. The cost premium of external financing is the greatest when a firm is considered financially distressed or constrained. FHP showed a negative relationship between internal funds and the demand for external funds, which was in line with the standard Pecking Order Theory. FHP also modified Pecking Order Theory by pointing out that firms' values are

heterogeneous and that under information asymmetry, investors initially cannot distinguish good firms from bad ones.

FHP analyzed 422 large U.S. manufacturing firms during the 1970-1984 period and divided firms based on dividend payout ratio, an a priori measure of external financing constraints. The dividend payout ratio is defined as the ratio of common dividends to net income before extraordinary items (Grullon, Michaely, & Swaminathan, 2002, p. 393). Under the information asymmetry assumption, a firm's dividend policy delivers information to the market which reacts to dividend announcements (Turki & Dereeper, 2012). It has been well documented that managers used dividends as signaling devices to convey news about future cash flows to the market. This is known as the dividend-signaling hypothesis or information content of dividends hypothesis (Balachandran, Krishnamurti, Theobald, & Vidanapathirana, 2012; Bhattacharya, 1979; Miller & Rock, 1985). According to Bhattacharya (1979), dividends are also considered to be a tool to convey information about a firm's true valuation under asymmetric information. Dividends have higher tax rates relative to capital gains; therefore, paying high dividends is too costly for firms with poor performance. High-dividends signal a healthy financial condition, high-performance and good long-term prospects to the market, shareholders and the outside world in general, whereas lower payout ratios signal the opposite. Obtaining external financing is more difficult for firms paying lower dividends to their shareholders. Based on the above reasoning, FHP argued that earnings retention practice (dividend payout ratio) was a credible indicator of a firm's financial status.

Classifying firms based on dividend payout ratio, FHP found that investment-cash flow sensitivity was higher for externally constrained firms than less constrained ones. When firms had restricted access to external capital, investment scale varied with the availability of both

investment opportunities and internal funds. Lack of low-cost sources of investment finance forced constrained firms to retain and invest most of their internal funds, which were mostly generated in the form of retained earnings. Thus, their investments were driven by fluctuations in cash flow. In contrast, less constrained firms could always use cheap external funds as an alternative to their internal capital. The fluctuation of cash flow was less relevant in their investment decisions. Therefore, FHP concluded that investment-cash flow sensitivity may be used as a measure of financial constraints.

Many studies that followed FHP adopted a similar methodology to identify financially constrained firms. These studies supported FHP's main conclusion: asymmetric information and financial constraints led to the positive relationship between investment and cash flow (Butler & Cornaggia, 2011; Carpenter & Guariglia, 2008). Carpenter, Fazzari, Petersen, Kashyap, and Friedman (1994) found that inventory investment was especially sensitive to negative internal finance/net worth fluctuations for external financially constrained firms. Carpenter and Petersen (2002) concluded that the growth of most small firms was constrained by their internal finances when external financing constraints were binding, but the same conclusion should not hold for the very few firms with easy access to external equity.

Almeida et al. (2004) extended FHP's findings and captured the effect of financial constraints by studying the cash flow sensitivity of cash which is defined as a firm's propensity to save cash out of cash flows. According to Almeida et al. (2004), an externally unconstrained firm had no need to hold cash, but also faced no cost when holding cash, due to unrestricted access to external financing. However, an externally constrained firm hoarded cash in anticipation of future potential financial constraints. But holding cash savings was costly because of the high opportunity cost of reducing current, valuable investments and bringing in future cash

returns (Almeida et al., 2004). Faulkender and Wang (2006) argued that an extra dollar of cash should be more valuable for externally constrained firms than that for unconstrained firms when investment opportunities were prospective. Denis and Sibilkov (2010) also claimed that cash holdings were more valuable for externally constrained firms than for unconstrained firms and interpreted greater cash holdings as a response to costly external financing.

Using standard measures such as Tobin's Q, several studies attempted to test whether the positive relationship between investment-cash flow sensitivity and financial constraints could stem from the under-captured cash flow - future growth opportunities correlation, but their results confirmed FHP (Bond, Klemm, Newton-Smith, Syed, & Vlieghe, 2004; Carpenter & Guariglia, 2008; Cummins, Hassett, & Oliner, 2006; Erickson & Whited, 2000; Gilchrist & Himmelberg, 1995). However, despite the size and the importance of this line of literature, two problems remain controversial: the reasons why cash flow matters for investment and the interpretation of the monotonic relationship between investment-cash flow sensitivity and financial constraints.

U-shaped Investment-cash flow Relationship

Kaplan and Zingales (1997) challenged FHP's work by reexamining a low-dividend subsample that was defined by FHP as financially constrained. The authors categorized firms into five categories of financial constraints based on the statements on liquidity on SEC 10-K and financial statements and then regressed degree of financial constraint on multiple financial statement items, cash-flow, long-term debt, dividend-to-asset ratio, and Tobin's Q. Kaplan and Zingales (1997) found that less financially constrained firms, by their own classification, had less investment-cash flow sensitivity. Therefore, they claimed that investment-cash flow sensitivity was not an accurate indicator of financial constraints. They further suggested that a non-

monotonic relationship might exist between investment-cash flow sensitivity and financial constraints. Cleary (1999) took a step further and used a large sample of 1317 U.S. non-financial companies with complete financial information on the SEC Worldscope Disclosure data set during 1987-1994. The high investment-cash flow sensitivity of the unconstrained firms found by Cleary (1999) endorsed KZ's findings (KZ/Cleary hereafter). Further, Cleary's dynamic approach allowed reclassification of firms and reflected the changing levels of firm financial status over time. KZ/Cleary findings are considered a major diversion from the mainstream literature by showing that financial constraints may not be the only reason for high investment-cash flow sensitivity. Lamont et al. (2001) used Kaplan and Zingales (1997)'s regression coefficients to generate a beginning-of-period financial constraints index Z_{FC}, also called "KZ Index". The KZ Index is a linear function of five accounting ratios, cash flow to total capital, market to book ratio, debt to total capital, dividends to total capital and cash holdings to capital. The higher the index, the more constrained the firm. The KZ Index is a widely used measure of financial constraints.

Debate on the Impacts of Financial Constraints on Investment

A heated, but important debate followed KZ/Cleary. Fazzari, Hubbard, and Petersen (2000) argued that the small-size and homogeneous sample in Kaplan and Zingales (1997) was problematic and made the findings hard to interpret. They further pointed out that the Kaplan and Zingales (1997) classification of the degree of constraint was flawed both in an absolute (whether or not firms are constrained) and a relative (degree of constraints across firms) sense. First, SEC regulations require a firm to reveal its financial status only when they are unable to undertake an announced investment project. In most situations, the use of self-serving managerial statements may fail to reveal financial constraint information. Second, the Kaplan

and Zingales (1997) classification criteria (cash stocks, unutilized credit lines, and leverage) are unreliable measures of financial constraints. For instance, low debt level may be interpreted either as an indicator of financial healthiness, or as a lack of collateral to convince lenders and thus reflect more severe constraints. While a relatively large cash position and/or unused debt capacity may look attractive on financial statements, they may also be the result of a firm's incentive to accumulate liquid stock and simply serve as a buffer for precautious purpose. Third, Kaplan and Zingales (1997) ignored other types of investment (e.g., investments in labor, inventory or financial assets) and implicitly assumed that financing was only for fixed investment (e.g., physical assets). Replacing fixed investment with total investment makes the cash stock-investment ratio too small to rule out the absence of financial constraints, considering a certain amount of cash stock buffer is necessary for any firm.

Kaplan and Zingales (2000) acknowledged that one firm was considered more constrained than another when it either had fewer internal funds or its intrinsic characteristics made external financing more costly. The authors used a firm-year example, Microsoft-1997, to illustrate that their classification was more accurate than FHP's. Microsoft did not pay any dividend and retained high cash balances in 1997. Accordingly, Microsoft would be considered as constrained based on FHP's classification. But by Kaplan and Zingales's (1997, 2000) criteria, Microsoft was financially unconstrained because the net income that year ($3.5 billion) and cash held ($9 billion) were way more than its capital expenditures ($0.5 billion). Further, Kaplan and Zingales (2000) quoted the well-known leverage effect (more liquid assets translates to more borrowing) to explain why less constrained firms exhibited higher investment-cash flow sensitivities. Therefore, they still insisted that financial constraints were not responsible for the high investment-cash flow sensitivities of a firm-year case such as Microsoft in 1997.

Reconciliation Efforts

Recent years witnessed multiple efforts to reconcile the above two lines of literature. To answer the question of how financial constraints affect firm investment, the ability to accurately identify constrained firms is a definite requirement. However, financial constraints are not directly observable. The existing literature relied on indirect proxies as in FHP (e.g. credit rating or dividend payout), text-based measures as in KZ/Cleary (e.g., SEC filing and financial statements) or indices based on linear combinations of observable firm characteristics as in Lamont et al. (2001) (e.g., firm age, size, leverage).

Internal vs. External Financial Constraints. Cleary et al. (2007) attempted to distinguish the effects of internal and external financial constraints on investment scale. They explained how different classification schemes and sample composition led to the discrepancy in FHP and KZ/Cleary. On the one hand, Cleary et al. (2007) claimed that firms with a lower payout ratio (FHP criteria) were more likely to have higher investment-cash flow sensitivity because financially weaker firms were systematically eliminated in FHP 's sample. On the other hand, they found that less constrained firms with low Z_{CF} score (KZ criteria) had lower investment-cash flow sensitivity. Therefore, the authors concluded that the findings of FHP and KZ/Cleary were just different facets of the U-shaped relation between investment and internal funds and that different dimensions of financial constraints needed to be carefully distinguished.

Cleary et al. (2007) took into consideration not only cost effect but also revenue effect of an investment project, which was largely ignored by previous research. The cost effect indicates that a lower internal fund level is associated with a greater need for external funds, costlier external financing and a higher risk of default. Revenue effect signifies that the revenue generated from an investment project can lower the risk of default and thus reduce external

financing cost. While investing in a project brings in revenue, it may also increase the probability of default when the firm cannot repay debt as promised. The optimal scale of investment varies with a firm's internal funds, depending on which effect overrides the other. In general, if the cost effect overrides, then investment scale should be positively related to internal funds; if the revenue effect dominates, a negative relationship between investment scale and internal funds should exist.

According to Cleary et al. (2007), in a more specific debt-financed investment scenario and under the assumption that managers are risk averse, 1) A firm with intermediate levels of internal funds prefers a smaller (vs. larger) investment project (cost effect prevails). Such a firm cannot finance projects entirely with internal funds and needs to raise some external funds. While a large, optimal project leads to higher return and profit, the expected liquidation loss and uncertainty about future payoff make it less preferable. Rather, a smaller investment project may mean more certainty to repay debt and risk-free debt considering the firm's internal fund level and anticipated revenue. 2) A firm with high internal funds prefers a large investment project because investors have adequate internal funds and anticipated revenue to repay debt (revenue effect prevails). 3) A firm with very low or even negative internal funds goes for a large project, Both small and large projects entails a risk of default, but a large project is associated with higher anticipated revenue for investors and is easier to get external financing (revenue effect prevails).

Guariglia (2008) further argued that FHP criteria could be seen as proxies of the degree of External Financial Constraints faced by the firms in that they illustrate the effects of information asymmetries and difficulties or high costs of obtaining external funds and that KZ/Cleary used indices of firms' financial constraints based on the amount of available internally-generated funds or the degree of Internal Financial Constraints. Guariglia (2008)

findings strongly suggested that internal and external financial constraints had different effects on firms' investment decisions. We agree that the distinction between internal and external financial constraints is not only necessary but also well justified.

Guariglia (2008) analyzed both the individual and combined effects of internal and external financial constraints on investment in a multiple-step fashion. When not distinguishing the two dimensions, the author found a positive monotonic investment-cash flow relationship, with the negative cash flow firm-years showing a higher investment-cash flow sensitivity than other firm-years, findings consistent with Allayannis and Mozumdar (2004). Then, Guariglia (2008) examined the individual effects of internal and external financial constraints. The findings were as follows: 1) when firms were divided by the degree of internal constraints (indicated by cash flow and coverage ratio), findings indicated a negative effect of cash flow on investment for the internally constrained group, no precisely determined effect for the moderately constrained group and a positive effect for the least constrained group. These findings supported Cleary et al. (2007) U-shaped investment-cash flow relationship and KZ/Cleary's claim that the least constrained firms had the highest investment-cash flow sensitivity; 2) When firms were divided by degree of external constraints (indicated by asymmetric information proxies such as firm size and age), findings yielded a positive effect of cash flow on investment for both externally constrained and moderately constrained groups, but there was no precisely determined effect for the least constrained group. This result showed the externally constrained group had the highest sensitivity, which was in line with FHP's observation. Guariglia (2008) explained the findings with different interactions between cost and revenue effect. When a firm's internal funds were unable to meet a firm's investment needs and additional borrowing was triggered, higher borrowing was associated with higher repayment costs and higher default risk (cost effect). To

avoid high borrowing and default risk, the firm cut investments when cash flow decreased, which led to a positive relationship between investment and cash flow. On the other hand, investment generated future revenue (revenue effect), which lowered the risk of default. To improve its capability to repay its debt and to avoid default risk, the firm increased investment to generate more revenue when cash flow shrunk, which led to a negative relationship between investment and cash flow. These findings demonstrated that the discrepancy between FHP and KZ/Cleary are due to the different criteria used to define financial constraints. External and internal financial constraints often have opposite effects on the investment-cash flow sensitivities.

Lastly, Guariglia (2008) examined the combined effects of internal and external financial constraints and argued that the exact relationship between investment and cash flow also depended on which of the two, revenue or cost effect, prevailed. Guariglia (2008) reached three conclusions. First, a positive and significant relationship between investment and cash flow existed for only two groups: low internal constraints groups that are either externally constrained or moderately constrained. And the highest investment-cash flow sensitivities occurred for the externally financially constrained but internally unconstrained group (high cash flow/small and high coverage ratios/young). Second, for both internally and externally constrained groups, investment was not affected by cash flow. This result could be explained by the fact that such a firm might reach the minimum level of investment that was necessary to carry on initially basic operations. Therefore, further reduction in investment was impossible even when cash flow fluctuated. A large portion of any debt and/or cash flow generated from any investment would be used for certain obligations such as interest payments, debt payment, and fixed costs. Finally, cash flow's impact on investment was not even across various groups, with both internally and externally unconstrained groups demonstrating significantly different patterns. The essence of

Guariglia (2008)'s argument is that external and internal constraints often have opposite effects on investment-cash flow sensitivity and that is the cause of inconsistent findings in existing literature. The author attributed the non-significant coefficients of some groups to the counteracting cost and revenue effect.

Admittedly, internal and external financial constraints may be interrelated. For example, it may be easier for a firm with higher internal cash flow to obtain external funds, because investors see low internal constraints as an evidence of the firm managers' commitment to the investment projects and as a buffer for anticipated future financial constraints (Guariglia, 2008). "Greater internal cash flow enhances its balance sheet and net worth positions" and lowers "the cost of new debt", therefore, investors perceive such firms as healthier and less risky (Fazzari et al., 1988, p. 157). In contrast, internally constrained firms usually find external financing more difficult and costly.

Debt-focused vs. Equity-focused External Financial Constraints. Hoberg and Maksimovic (2015) echoed Guariglia's work by pointing out that a limitation of existing measures of financial constraints was their unidimensional nature. Their study focused on theoretically and empirically differentiating two forms of external financial constraints, debt-focused and equity-focused constraints. Following the text-based method, Hoberg and Maksimovic (2015) analyzed mandated disclosures of firms' liquidity and financing needs in SEC filing 10-Ks and tested the accuracy of three widely used direct measures of financial constraints, the Kaplan-Zingales (KZ index), Whited-Wu Index (WW Index) and Hadlock and Pierce (HP Index). Whited and Wu (2006) constructed an index using firm characteristics associated with external finance constraints. Hadlock and Pierce (2010) followed the text-based approach and created their financial constraint index using size, size-squared and age. Hoberg

and Maksimovic (2015) strongly suggested that the discrepancy between literature using KZ Index and WW index were because the KZ and WW indices were measuring two different types of constraints. According to Hoberg and Maksimovic (2015), KZ Index is more debt-focused, while WW index is more equity-focused. Moreover, Hoberg and Maksimovic (2015) once more brought up the issue of sample comparability. They claimed that existing measures based on an accounting ratio of relatively small samples might not be applicable to different populations of firms. Therefore, based on the availability of SEC Edgar and Compustat machine-readable text data, the authors compiled a comprehensive sample from the universe of Compustat firm-years between 1997-2009. By doing this, the authors aimed to avoid unstable model projections due to sampling bias and sector/firm heterogeneity. The authors found that debt-focused and equity-focused external constraints were quite different regarding firm investments and corresponding firm characteristics. For example, the most externally constrained firms were young, high-growth firms that desired equity financing.

Several studies (Farre-Mensa & Ljungqvist, 2013; Hoberg & Maksimovic, 2015) cast doubts on the unidimensional measure of financial constraints. Financial constraints cannot be directly observed and rely on indirect measures. Farre-Mensa and Ljungqvist (2013) evaluated five popular indirect measures (dividend (yes/no), credit rating (yes/no), KZ Index, WW Index and HP Index) and found that constrained firms classified by these measures were not constrained in the debt and equity markets. Therefore, we adopted a multi-dimensional measure of financial constraints instead of the traditional unidimensional proxies.

Sample Composition. Allayannis and Mozumdar (2004) claimed that the inclusion and prevalence of financially distressed firms with negative cash flow biased the results in KZ(1997)/Cleary (1999) and lowered the sensitivity for the more constrained group. The fact

that investments did not respond to cash flow when a firm was financially distressed could help explain the discrepancy in the existing literature. Financial distress is an extreme form of financial constraints. A firm is financially distressed when its cash shortage is so severe that cash loss is usually incurred and only absolutely essential investments can be made. The investment-cash flow sensitivity is low because the firm does not have any space to make further investment cutbacks when cash flow fluctuates. Allayannis and Mozumdar (2004) also took a step further by exploring the firm characteristics of both groups and found that the characteristics of financially constrained firms are: smaller (size), younger (age), with a higher growth rate but less profitable, with higher debt-to-asset ratio, and lower credit ratings. As an extreme form of financing constraints, financially distressed firms are characterized by "small size, low profitability, negative real sales growth, high leverage, low debt service coverage and poor credit ratings" (p.922) and are associated with younger age, cash loss and high-tech, including growth industries such as electrical equipment and computers. I would argue that such firms would not ever consider making nor be able to make cross-border acquisitions. Therefore, I do not expect such an issue is relevant to the current study.

Impacts of the 2007-2009 Financial Crisis

So far, our discussion on financial constraints focuses on individual firms. However, "financial constraints have a clear macroeconomic dimension because fluctuations in firms' cash flow and liquidity are correlated with movements of the aggregate economy over the business cycle." (Fazzari et al., 1988, p.143). Chang and Song (2013) pointed out that the friction from the supply side of capital, as a major source of external financial constraints, was largely ignored by Pecking Order Theory and financial constraints literature. Broersen (2011) claimed that existing literature about M&A payment method determinants focused primarily on acquirer, target and

deal characteristics and thus made an attempt to include the impacts of the financial crisis. We include a time trend variable to test the impacts of the 2007-2009 financial crisis.

Next, we briefly discuss how the 2007-2009 financial crisis impacted the economy and firms' investment and financial policy. The recent financial crisis caused serious concerns about the health of financial institutions. The financial problems of banks transmitted their effects to financial markets and real economy via the bank lending channel (Blundell-Wignall, Atkinson, & Lee, 2008; Gan, 2007). Retailers were also adversely influenced via another monetary transmission mechanism, the consumer balance sheet channel. The shock from both the supply side of capital and consumer demand caused retailers to suffer more than manufacturers.

The sharp reduction of bank lending volume made loans unavailable for many firms. Further, when the capital market finally reached a point that the market lost trust in the solvency and liquidity of banks and other financial institutions, issuing debt and equity were almost impossible in a nearly frozen capital market. Thus, the credit constraints of banks were transmitted to the real economy and put great challenges on firms' corporate governance. Bank lending to the corporate sector started to decrease around mid-2007 and this trend accelerated in 2008. Lending volume in the last quarter of 2008 decreased sharply by 47% compared to the third quarter and by 79% compared to 2007 (Ivashina, 2010). While banks took higher quality collateral against lending to protect against potential damage and loss, retailers' balance sheets became worse. It was hard to generate and accumulate cash flow in a stagnant retail market and with decreased consumer demand.

With less available cash, more expensive debt (if accessible) and a lack of other financing sources, some firms did not act on valuable investment opportunities; some sold off productive assets to raise funds, some hoarded more cash stocks, while others turned to the equity market

(Campello, Graham, & Harvey, 2010; Dittmar & Dittmar, 2008). Campello et al. (2010) found that constrained firms invested less, grew slower, and saved less during the financial crisis. Bottazzi, Secchi, and Tamagni (2014) observed that financial constraints prohibited younger, fast-growing firms from seizing profitable opportunities and further depressed older, slow-growing firm's growth.

The heterogeneity in firms' financing decisions in response to the economic shock motivates scholars to dig deeper. Guariglia (1999) indicated a significant positive internal finance - inventory investment relationship for externally constrained firms during recessions and periods of contractionary monetary policies. Dittmar and Dittmar (2008) found that high GDP growth rate was associated with higher proportions of stock payment, because reduced relative costs of issuing equity to debt financing made the equity market more attractive. The equity market is the most volatile during recessions when GDP growth rate is low.

Payment Method and Financing Source in M&As

The Importance of Financing and Payment Method Decision

Although cross-border acquisitions may present unique opportunities, they also pose serious challenges for MNEs due to the complexity of the acquisition process. Cross-border M&As add another layer of uncertainty and risk and are thus more complex than domestic deals. The finance literature documented various aspects of M&A transactions, such as agency and governance (Bris, Brisley, & Cabolis, 2008), cultural and organizational integration (Campa & Hernando, 2006; Quah & Young, 2005), market reaction to deal announcement and post-acquisition performance (Dutta, Saadi, & Zhu, 2013; Moeller, Schlingemann, & Stulz, 2005). Among these, "the form of payment and its appropriate mix" is referred to as one of the most important issues in M&A activities (Dutta et al., 2013,p. 91).

How the deal will be financed is one of the fundamental questions for any M&A deal. Traditionally, acquirers with sufficient cash reserves on hand may find themselves in an advantageous position. However, a wide range of alternative financing options exists, including debt, equity, as well as “shadow banking” in the form of sovereign wealth and credit funds (Clifford Chance LLP, 2015).

Based on previous studies (Faccio & Masulis, 2005; Martin, 1996), we categorized M&A payment method into cash payment, stock payment and mixed payment of cash and stock. Cash payment includes payment made of "cash, non-contingent liabilities, and newly issued notes" and stock payment is defined as payment with "shares with full voting rights or inferior voting rights" (Faccio & Masulis, 2005, p. 1348). This classification method assumes that acquirers employ cash payment when using debt financing to make up for internal funds deficits.

Given the large scale of many cross-border takeovers, the financing decision may have a significant impact on an acquirer's ownership structure, financial leverage, future cash flow, subsequent investment, and financing decisions as well as those of the target (Faccio & Masulis, 2005). The financing decision may also raise corporate control, risk bearing, and dividend concerns of the shareholders. Payment method decision involves tradeoffs among many factors, including the financial soundness of the acquirer, the opportunity cost of internal funds, pre-merger dividend policies, rising financial distress of issuing debt and the asymmetric information concerns of issuing equity, and much more (Turki & Dereeper, 2012).

Payment Method and Market Reactions

Several empirical studies examined the signaling effect of payment method and its impacts on market reactions (Travlos, 1987). Payment method decision can send different information signals to market participants. Such a signal is particularly important for investors in

a world of asymmetric information, where investors incorporate indirect evidence in order to evaluate firms' performance and value. In the context of M&As, the acquiring firms' payment method signals information concerning the assets valuation of both the acquirer and the target.

In most cases, equity payment is accompanied by negative capital market reactions because of two possible reasons. Equity payment signals that the acquirer's management believes that the acquiring firm is either overvalued by the market (Myers & Majluf, 1984) or relatively overvalued by the market compared to the target. Issuing shares may also signal overvalued existing assets of the target and function as inflated currency when buying the target (Hansen, 1987).

In the case of cash payment, the acquirer's assets are perceived as undervalued by investors (Myers & Majluf, 1984). An acquirer may offer to pay by cash to send a positive signal to the market when it believes that its stock is properly valued. Travlos (1987) found that the two methods of payment (cash and common stock) had different effects on the acquiring firms' common stock prices at the announcement of the takeover. The author provided three possible explanations: information effects, corporate tax effects and increased debt capacity due to the co-insurance effect of the combined entity. For the information effects, he argued that investors preferred cash payment over a common stock exchange because they interpreted cash payment as a reflection of the acquiring firm's true value and stock payment as an indicator of overvaluation. Under the asymmetric information assumption, investors believed that the method of payment employed signals insiders' motives. The managers would consider cash payment if they believed that their firm is undervalued. Otherwise, they would consider stock payment. The acquiring firms' stock price change reflected the market adjustment to the valuation. Therefore, the abnormal returns would be higher for cash payment deals than common stock exchange deals

(Travlos, 1987). Multiple studies (Amihud, Lev, & Travlos, 1990; Brown & Ryngaert, 1991; Servaes, 1991) documented the same negative average announcement returns in cases of stock payment.

Existing literature shows that the market prefers cash over stock payment deals. Cash payment repels other firms from a bidding contest since they imply that the management of the first bidder believes the target is of high value. Cash deals might even signal that the management wants to buy the target at any cost (Fishman, 1989; Hansen, 1987). But in some cases, stock payment mitigated problems of asymmetric information and might induce targets to make efficient acceptance decisions (Fishman, 1989; Hansen, 1987). Dutta et al. (2013) found that cross-border acquisitions had unique aspects that attract stock market investors. Cross-border deals involve greater information asymmetry and uncertainty regarding target evaluation, new business synergy, and profit realization. Stock payment has the advantage of mitigating such information asymmetry and thus is perceived positively, or even overenthusiastically by the market.

Determinants of Payment Method

I now discuss studies that explored the determinants of or motives underlying acquirers' payment method. Travlos (1987) found that stock payment deals suffered significantly more from negative abnormal returns than cash payment deals did. Amihud et al. (1990) tested the relationship between corporate control considerations and payment (financing) method and found partial support for Travlos (1987). The author reported negative abnormal returns for stock payment deals only when the acquirers had low management ownership. Firms with high managerial ownership preferred financing by internal cash or debt rather than issuing new stocks to solidify the managers' control and avoid a dilution of their holdings. Martin (1996)

investigated characteristics of acquirers and targets, such as size and investment opportunities, and the environment in which the takeover took place. He found that acquirers' growth opportunities were positively related to the use of stock financing, because stock financing put lower constraints on acquirers and gave more flexibility in acquirers' current or future investment financing. Further, Martin (1996) found a negative relationship between ownership and stock financing only for the middle range of ownership (between 5% and 25%), but not for small and large ownership ranges. Other determinants of payment method included the acquirer's cash availability (higher cash-stock financing), stock returns (higher return-stock financing) and institutional shareholdings (higher-stock financing) (Martin, 1996).

Faccio & Masulis (2005) focused primarily on acquirers' corporate control concerns and financial strength, which had conflicting effects in determining payment method in acquisitions. Based on the fact that most M&A transactions require a large amount of capital, the authors assumed that most acquirers making cash payments would use debt financing to make up for their limited cash and liquid assets. Consequently, financing and payment method decision was a choice between equity and debt, "which involves a tradeoff between corporate control concerns of issuing equity and rising financial distress costs of issuing debt" (p. 1346). The former could be influenced by management's motive to maintain its current governance and ownership structure, while the latter was influenced by the acquirer's debt capacity and current leverage. An acquirer's growth (or investment) opportunities were identified as another important determinant (Faccio & Masulis, 2005).

Furthermore, Faccio and Masulis (2005) found that several target and deal characteristics significantly affected payment method decision, such as the target's public status (listed or not; if yes, subsidiary or not), relative deal size, cross-border or domestic. Admittedly, the target can

influence the final payment method. For a deal to proceed, both the acquirer and the target must agree upon with the financial structure of the deal. The acquirer may have strong preferences toward a certain payment method. But if the acquirer's payment method is not acceptable to the target, the proposed takeover is likely to be aborted, or a hostile takeover may take place (Faccio & Masulis, 2005).

Another frequently cited determinant of payment method is taxation. Target shareholders benefit from stock payment' taxation deterring effect since it is not taxable, while cash payment to the target shareholders is liable to taxation. Thus, target shareholders preferred stock payment and required a higher premium in cash payment (Franks, Harris, & Mayer, 1988; Ismail & Krause, 2010). Fishman (1989) looked at the dynamic bidding process and found that, under the threat of competitive bidding, acquirers were more likely to use cash payments to preempt competitors.

Ben-Amar and André (2007) extended previous research and investigated the relationship between payment method (cash percentage) and the joint effects of acquiring firm characteristics (ownership structure, financial constraints, growth opportunities and cross-listing) and target characteristics (relative size to the bidder, public status, and cross-border). Ben-Amar and André (2007) confirmed the importance of ownership concentration in determining payment method, which supported Faccio and Masulis (2005). Consistent with prior research, Ben-Amar and André (2007) found that percent of cash financing was negatively related to an acquirer's growth opportunities and positively related to the size of collateral measured by fixed assets. Furthermore, the authors claimed that an acquirer was more likely to make cash payment when the target was a small, private company, when the target was an unlisted subsidiary, and in a cross-border deal.

García-Feijóo et al. (2012) expanded the existing framework of M&A payment method by introducing industry characteristics as moderators of firm characteristics - M&A payment method relationship. García-Feijóo et al. (2012) found a significant variation of stock payment percentage across different industries, ranging from the minimum proportion of 45.86% in consumer durables to the maximum 70.77% in business equipment. The authors also reported considerable cross-industry variations regarding the impact of the following factors on payment method: free cash flow, financial leverage, equity overvaluation, and target's relative size to acquirer. Industry demand conditions, industry competition and acquirer-target in the same industry interacted with firm-level variables in determining payment method (García-Feijóo et al., 2012). Several other studies investigated the relationship between merger activity and industry characteristics, such as industry concentration and industry demand conditions (Ahern & Harford, 2014; Bernile, Lyandres, & Zhdanov, 2012; Lambrecht, 2004) and the distributions of firm sizes within an industry (Gorton, Kahl, & Rosen, 2009).

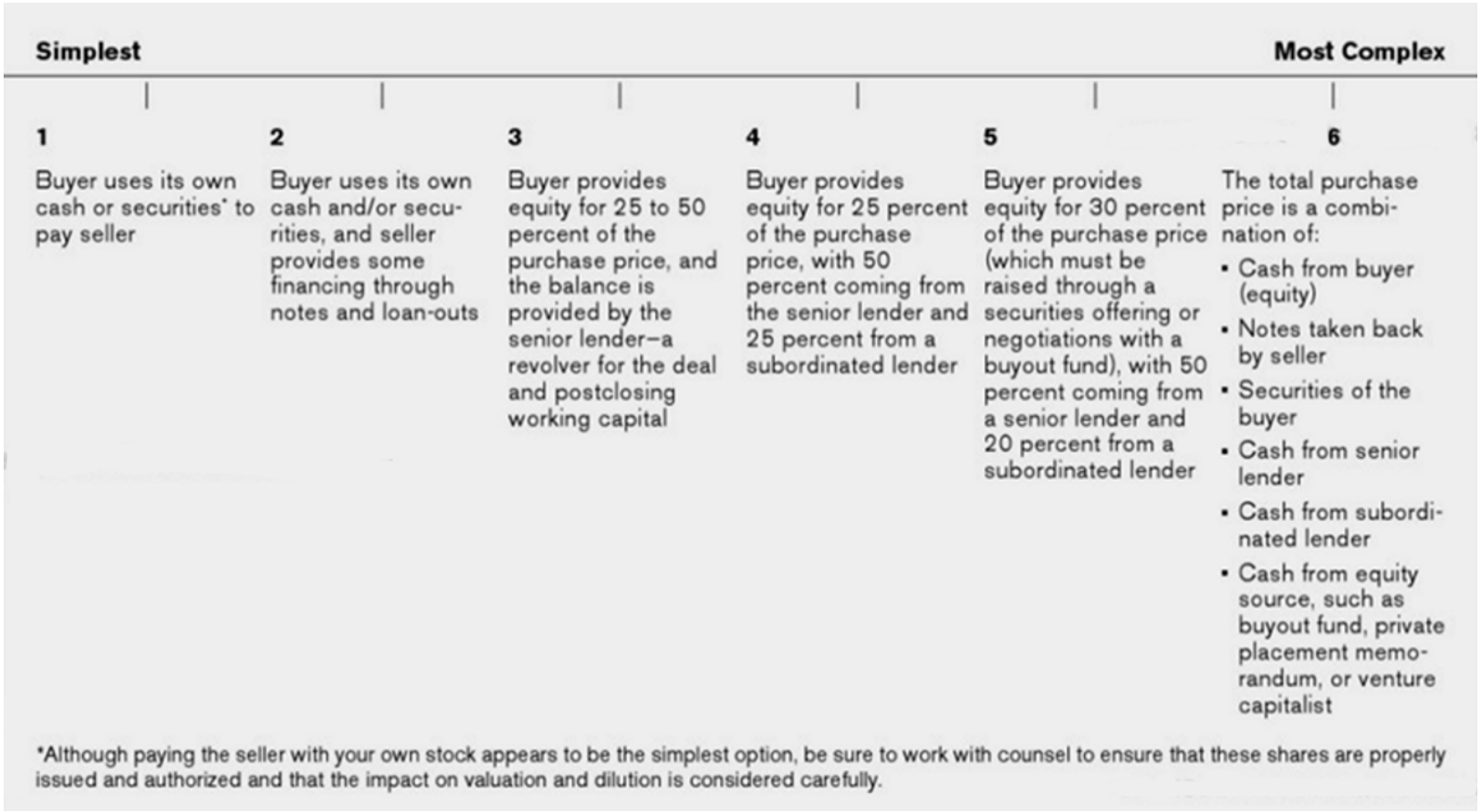
Difference between Financing Source and Payment Method

Traditionally, the term "payment method" and "financing source" are considered as equal (Amihud et al., 1990; Faccio & Masulis, 2005; Martin, 1996; Travlos, 1987) due to lack of reliable data sources for M&A financing source. However, using data for European takeovers during 1993-2001, Martynova and Renneboog (2009) pointed out that equating payment method and financing source might induce inaccuracies and oversimplify the reality, especially for all-cash payment deals. In reality, many of the acquisitions paid entirely by cash are at least partially financed with external funds. For cash-equity combination payment deals, many acquirers borrow or access the equity market to finance the cash portion. In other words, external financing (debt and/or equity) is frequently involved in all-cash-payment or partial-cash-payment deals.

Acquisitions with the same payment method may be financed from different sources. Consequently, Martynova and Renneboog (2009) claimed that without differentiating between payment method and financing source, the conclusions derived in prior research might not reveal the true underlying determinants and motives of acquirers. They partitioned the sample into four mutually-exclusive, general financing source groups (internal funds only, debt issues, equity issues and a combination of equity and debt issues). They were not able to identify the specific form of debt financing (bank loan, loan notes or bond issue) or of equity financing (public or private equity placement). Based on the fact that, to some extent, almost all M&As use internal financing, the authors clarified that the latter three financing sources might all involve internally generated funds. Then Martynova and Renneboog (2009) classified the deals based on three payment method (Cash, Equity, and Mixed Payment) and created a nested model to examine the relationship between financing source and payment method (p. 299). The results of univariate and multinomial logit analysis showed that financing source was determined mostly by the cost of external capital considerations and could be explained by financial condition, stock price run-up, corporate structure composition, and the acquirer's strategic preference for a specific payment method. However, payment method was determined by a distinct set of factors, such as an acquirer's intention to share risk with the target, concerns of corporate control issues, and certain target and deal characteristics. Martynova and Renneboog (2009) did not find a significant or consistent relationship between an acquirer's financial condition and payment method. Therefore, to study the impact of financial constraints, we used financing source as our main dependent variable.

In reality, a wide range of options for financing M&A deal exists, from a single source financing to "a layered transaction with multiple levels of debt and equity" (Sherman, 2010,p155) (see Figure 2 for examples).

Figure 2 Examples of the Acquirer's Financing Options (from the Simplest to the Most Complex)



Source: Sherman (2010) M&A from A to Z, 3rd Edition.

In general, the key factors that influence financing sources are the acquirer's cash position, its access to the security market, and the size and complexity of the transaction. Each financing source has its own unique set of evaluation criteria. Therefore, it is important to understand the lenders' perspectives. Debt financing can be commercial bank loans (usually 3-5 year intermediate-term loans) or a loan notes/bond issue. History of the acquirer, financial statements, and market data are important documents that lenders review. Collateral, cash flow, and strength of balance sheet are important for debt financing. Equity financing involves "the offering and sale of the buyer's securities for the purpose of raising the capital to pay the seller and to provide working capital for the new combined company" (Sherman, 2010, p. 166). The various forms of equity financing include common stock, preferred stock, convertible securities (e.g. warrants and options), private placement offerings, and venture capital funds. A private placement offering is any type of offering of securities by a small or growing company that does not need to be registered with SEC. Venture capital generally refers to high-risk, early stage financing of young emerging growth companies (Sherman, 2010, p. 204). The typical growing company tends to issue equity before tapping debt options. Its balance sheet lacks adequate assets necessary to serve as collateral to secure the debt. Therefore, lenders consider it has a high risk of default, thus, have stricter loan standards. Instead, its perceived value by investors usually relies more on intangible assets (i.e., patents, trade secrets or goodwill) and projected earnings. The equity market is a better choice under such a circumstance.

In the next chapter, we will integrate financial constraints and financing source (and payment method) literature to form our hypotheses.

CHAPTER III

CONCEPTUAL FRAMEWORK AND HYPOTHESES

The traditional Pecking Order Theory presents a hierarchy of financing sources, in which a higher degree of information asymmetry associated with external financing leads to a resulting preference for internal funds and the preference for debt over equity when external financing is necessary. However, multiple studies (Fama & French, 2002, 2005; Frank & Goyal, 2003) reported violations of Pecking Order Theory. The validity of Pecking Order Theory is challenged when explaining why so many firms issue equity and why small, high-growth firms are particularly likely to do so. With equity financing becoming increasingly popular in M&As and with publicly listed firms increasingly dominated by small firms, more theoretical development is needed to enhance our understanding of diversified retail M&A financing decisions.

Financial constraints are considered the most important potential explanation for this literature discrepancy (Chang & Song, 2013). A financially constrained acquirer may have no (or limited) access to preferred funding sources and/or any funding sources to close the deal. As a result, a potential acquirer's financial status may influence many aspects of the M&A transaction ranging from the likelihood of the takeover, to financing options and/or payment terms, and even to the post-acquisition performance (Pardoel, 2011). Y.-R. Chen et al. (2009) also showed that the acquirer's financing constraints were a more noticeable problem in a cross-border than a domestic M&A deal.

Many studies affirmed Pecking Order Theory's validity for large, financially healthy companies that are less likely to be subject to information asymmetry and financial constraints (Fama & French, 2002, 2005; Frank & Goyal, 2003; Guariglia, 2008). But these studies did not

support the pecking order for broader samples or samples over a long time period (Frank & Goyal, 2003). Rather, there is growing support for the claim that Pecking Order Theory is conditional on financial constraints. Chang and Song (2013) demonstrated that once financial constraints are controlled for, Pecking Order Theory provides a good explanation for firms financing behaviors.

Meanwhile, our literature review in Chapter 2 reveals that there is an ongoing debate around the measurement problem of financial constraints, despite the efforts to address the issue from multiple directions. Drawing upon different lines of research, we developed a multi-dimensional approach to measuring financial constraints. By exploring the joint effects of the three aforementioned firm-level financial constraints (internal, debt-focused and equity-focused) and then the effect of the 2007-2009 financial crisis on an acquirer's M&A financing source decision, we sought to identify the financing source that an acquirer is most likely to use in the presence of certain financial constraints and that is least adversely influenced during the financial crisis. Our findings attempt to examine whether Pecking Order Theory is supported across different dimensions and degrees of financial constraints.

Regarding our dependent variable, Martynova and Renneboog (2009) found that an acquirer's financial constraints influence its financing decision, but not its payment method. To eliminate the noise from factors irrelevant to financial constraints, we followed Martynova and Renneboog (2009)'s approach and used financing source as our dependent variable. We initially categorized financing sources into four mutually four exclusive categories, Cash Only, Debt, Debt-equity mix and Equity. The latter three may involve internal financing. Later, we decided to merge Debt-equity mix with Equity to balance cell size and facilitate comparisons via multinomial logit regression analysis.

Investment in the form of a takeover depends on "internal" financial constraints (availability of internal funds) and "external" financial constraints (access to new debt or equity financing). Internal and external financial constraints have different effects on investment which need to be distinguished (Guariglia, 2008). Evidence supporting this argument lies in the marked difference in the sample splits in Almeida et al. (2004) and Hoberg and Maksimovic (2015). These authors found that constrained/unconstrained subsamples generated by an internal financial constraints measure (the "KZ Index") showed an opposite pattern compared to those generated by the other four external financial constraints measures (dividend payout ratio, asset size, credit ratings and commercial paper ratings). Hoberg and Maksimovic (2015) documented that debt-focused constrained firms demonstrated distinct characteristics from equity-focused constrained firms. Guariglia (2008) found that investment-cash flow relationship was U-shaped when the sample was split by internal financial constraints criteria, the investment-cash flow sensitivity increased monotonically with the degree of external financial constraints while the sample was split by external financial constraints criteria. Therefore, the authors concluded that to capture the fuller picture, we should study the combined effects of internal and external financial constraints. We argue that internal and external financial constraints exert different effects on financing decision as well as on investment decision. To continue our previous discussions about the multiple dimensions of financial constraints, we partitioned acquirers into subgroups based on prior measures of internal and external financial constraints.

Low Internal Financial Constraints (IFC = LOW)

According to Pecking Order Theory, firms have a preferred sequence when financing new investments; i.e. a firm will first exhaust its retained earnings, then relatively safe debt, then risky debt or convertibles before common stock. Almeida et al. (2004) defined a firm with

unrestricted access to external capital as financially unconstrained, which is in line with our external financial constraints definition. The authors suggested that external financial constraints relate to “firm’s propensity to save cash out of cash inflows” (p. 1778). Externally unconstrained firms can fund all the profitable investments and "have no use for cash” (Almeida et al., 2004, p. 1778). But since they do not have any cost of holding cash, cash policies of such firms are indeterminate. Almeida et al. (2004) found externally unconstrained firms tended to be large, had high debt ratings, and paid large amounts of dividends, but did not observe a systematic pattern of cash holding changes for such firms. Other studies (Guariglia, 2008; Shyam-Sunder & Myers, 1999) affirmed Pecking Order Theory's validity for large, established, and financially healthy companies with good credit ratings which are less likely to be subject to information asymmetry and financial constraints. Such firms usually have a close relationship with banks, a history of issuing bonds, and/or equity and more coverage by analysts, all of which diminish information asymmetry. Large, established firms are less concerned about future financing and financial flexibility. Almeida and Campello (2010) found a negative relationship between internal funds (profitability) and the demand for external funds (debt issuance) mostly among externally unconstrained firms. For these firms, the increasing availability of internal funds reduced the demand for external financing. Using measures of both internal and external constraints (dividend ratio, KZ Index, WW Index and SA Index), Chang and Song (2013) showed that unconstrained firms tended to be larger and with more tangible assets, higher profitability but fewer growth opportunities than constrained firms. For large, public firms, most of which have investment-grade debt ratings, investments can be treated as completely exogenous to financial constraints. These firms can issue nearly default-risk free debts. Therefore, they can escape from liquidity constraints caused by asymmetric information and access external funds when needed.

There are no incentives for them to save internal funds. Therefore, an acquirer with low (or no) financial constraints will use the cheapest financing source, its cash reserves.

H1a: An internally and externally unconstrained acquirer is more likely to adopt Cash Only financing than other financing options.

According to Pecking Order Theory, internal funds and debt are preferred over equity financing because equity financing involves greater information asymmetries. In addition, a firm's ability to raise debt (bank loan or bond) is likely to co-vary with internal funds, because a high level of internal funds signals good performance and reduces the costs of new debts, or because high level of internal funds translates to high asset tangibility and allows the firm to raise more debts through the "credit multiplier effect" (Almeida & Campello, 2010). Therefore, we would expect that equity-focused financial constraints do not influence the acquirer's decision to choose the cheapest financing source.

H1b: An internally and debt-focused unconstrained, but equity-focused constrained acquirer is more likely to adopt Cash Only financing than other financing options.

Opler, Pinkowitz, Stulz, and Williamson (1999) and Denis and Sibilkov (2010) found that externally constrained firms, on average, held significantly more cash than unconstrained firms. Cash is reserved to meet high hedging needs and/or to allow constrained firms to invest in profitable projects. Alshwer et al. (2011) identified externally constrained firms by using three proxies, annual payout, size, and the availability of debt rating. Consistent with Opler et al. (1999) and Denis and Sibilkov (2010), Alshwer et al. (2011) refuted the possibility that the lower use of cash payment on average was caused by lack of internal funds. Although external financing constraints affected firms of different sizes and ages, it was more relevant among smaller and younger firms (Bottazzi et al., 2014). Bottazzi et al. (2014) observed that the median

size of externally constrained firms was one-third smaller than that of unconstrained firms. The authors also found that a large portion of externally constrained firms had an adequate cash reservoir to pay for the acquisitions and held more cash than unconstrained firms and that these firms, on average, were more likely to choose stock as payment method and had significantly higher Tobin's Qs. These externally constrained firms are debt-focused constrained by our definition. The authors' arguments rest on the opportunity cost of cash hypothesis, which posits that debt-focused constrained firms (usually with higher growth opportunities and access to equity market) accumulate cash resources to meet the needs for financial flexibility, to take advantage of valuable growth opportunities, and to circumvent future underinvestment when only costly external financing is available. Therefore, their preference for precautionary cash holdings overrides the relatively higher costs of issuing equity. These firms tended to be small, young, without long-term debt or public debt rating, pay lower dividends and had low profitability but strong growth opportunities (Alshwer et al., 2011; Chang & Song, 2013; Fama & French, 2001). Therefore,

H1c: An internally unconstrained and equity-focused unconstrained (or moderately constrained), but debt-focused constrained acquirer is more likely to adopt Equity financing than other financing options.

Moderate Internal Financial Constraints (IFC = MEDIUM)

Guariglia (2008) observed that fund deficit and borrowing occurred when an acquirer's internal funds were insufficient to meet the investment demands. The acquirer could possibly drop the deal. But if the acquirer makes an acquisition decision based on its current financial situation (i.e. the acquisition decision is endogenous to its financial constraints), the acquirer is financed the deal at least partially by external funds. The financing decision becomes a choice

between Debt and Equity financing. Hoshi et al. (1991), Fazzari et al. (1988) and Whited (1992) considered the effects of financial constraints on investment mainly as the results of the asymmetric information problem arising from Equity financing. Shyam-Sunder and Myers (1999) confirmed that Pecking Order Theory served as a much better first-order explanation of the debt-equity choice than the static tradeoff and optimal capital structure theory for a mature corporation. Using a sample of 157 large, public firms, Shyam-Sunder and Myers (1999) refined Myers (1984) original idea into a testable prediction. Ignoring the debt market financing constraints, a firm would finance an investment by issuing the cheapest and safest security first, meaning it would borrow and/or issue debt before considering issuing equity. Thus,

H2a: A moderately internally constrained, but debt-focused and equity-focused unconstrained acquirer is more likely to adopt Debt financing than Equity financing.

H2b: A moderately internally constrained and debt-focused unconstrained, but equity-focused constrained acquirer is more likely to adopt Debt financing than Equity financing.

If debt-focused financial constraints were serious (assuming access to equity market was available), a firm would consider issuing equity to repay debt or finance investments (Shyam-Sunder & Myers, 1999). Debt-focused constrained firms usually had a high debt ratio, which made debt financing inaccessible or extremely costly. Thus, managers would opt to issue equity to finance anticipated deficits despite the high cost of equity financing due to information asymmetry. Chang and Song (2013) pointed out that credit rationing caused by information asymmetry in the debt market was one of the critical market imperfections ignored by Pecking Order Theory. Pecking Order Theory emphasizes the information asymmetry issue in the equity

markets, but ignores the information asymmetry problem that can be possibly more severe in the debt markets. Credit rationing occurs when banks and/or lenders limit or stop supplies to the riskiest borrowers who are willing to pay higher interest rates beyond a certain point (Stiglitz & Weiss, 1981). In a loan market, lenders are concerned about two factors that can potentially lower their profits: interest rates (the expected returns of loans) and the likelihood of loan repayments (the riskiness of loans). When market information is asymmetric and incomplete, the interest rate that a borrower is willing to pay signals the riskiness of the loan and is used by the lender(s) as a screening tool to identify "bad" borrowers. On the other hand, higher interest rates also induce borrowers to invest in high risk, high return projects, which are out of the lenders' control. Lenders make loan decisions based on the trade-off between expected returns and risks and would not lend to borrowers who offer to pay higher than "bank-optimal" rates. When the supply cannot match the demand of funds, credit is rationed. Although most debt-focused constrained firms had a high debt ratio, Devos, Dhillon, Jagannathan, and Krishnamurthy (2012) revealed that zero-debt firms did not issue debt mainly because they were debt-focused constrained rather than because managers had the propensity to avoid default risk. We included both types of debt-focused constrained firms in our sample.

H2c: A moderately internally constrained and equity-focused constrained (or moderately constrained), but debt-focused constrained acquirer is more likely to adopt Equity financing than Debt financing.

High Internal Financial Constraints (IFC = HIGH)

Cleary et al. (2007) proposed that a firm's investment is a U-shaped function of its internal funds. When the level of internal funds is too low, firms will increase investment to generate more cash through external financing. Negative cash flow was used to capture the

internal financial constraints faced by manufacturing firms (Allayannis & Mozumdar, 2004; Guariglia, 2008). Because many retail MNEs operated under the negative working capital condition (Dawson, 2007), we alternatively categorized a firm as internally constrained if its internal funds/beginning-of-the-period total asset ratio (normalized internal funds IF_Norm) ranked among the bottom 33rd percentile of all firms operating in the same sub-industry in the fiscal quarter when the acquisition took place. Meanwhile, time series data revealed that young, growing firms with negative cash flows increased over time (Allayannis & Mozumdar, 2004). Allayannis and Mozumdar (2004) provided evidence supporting the fact that internally constrained, but debt-focused unconstrained firms relied more on debt, while both internally and debt-focused constrained firms had to rely on equity. In another word, firms prefer debt over equity except when the debt markets are not accessible.

H3a: An internally constrained, but debt-focused and equity-focused unconstrained acquirer is more likely to adopt Debt financing than Equity financing.

H3b: An internally and debt-focused unconstrained, but equity-focused constrained acquirer is more likely to adopt Debt financing than Equity financing.

Denis and Sibilkov (2010) investigated why some externally constrained firms had lower cash holdings despite the benefits of holding cash under such a situation. Consistent with Pecking Order Theory, they found that the severe asymmetric information problem associated with equity financing increased its costs and forced firms to issue equity only when alternative sources of financing were unavailable or were even more costly than equity financing (Martynova & Renneboog, 2009). The high cost of debt financing may limit a firm's capability to take advantage of attractive growth opportunities and to invest in highly profitable, optimum projects, thus adversely influencing a firm's future growth, performance, and/or firm value. Lack

of internal funds and leverage for debt financing make the equity markets, if accessible, more attractive. When internal fund level is sufficiently low, a firm is pushed to the extreme form of financial constraints, financially distressed. A financially distressed firm increases investment to generate more revenue and cash flow. According to Almeida et al. (2004,p. 1778), externally constrained firms anticipated future financial constraints and therefore hoarded cash. However, holding cash can be costly in that high cash savings almost equals the reduction of current, profitable opportunities. Denis and Sibilkov (2010) observed that internally and debt-focused constrained firms exhibited significantly lower cash flow margins and "persistently negative (and declining) free cash flow (operating cash flow net of capital expenditures and R&D) in the prior ten years" (p.249). The external capital raised by financially distressed firms was essentially spent on investment projects. Thus, they were unable to build their cash reservoir. We argue that such firms are likely to forego acquisition opportunities. However, if such a retail MNE still decides to conduct an acquisition despite internal and debt-focused financial constraints, it will raise funds via the equity markets.

H3c: An internally and debt-focused constrained, but equity-focused unconstrained (or moderately constrained) acquirer is more likely to adopt Equity financing than Debt financing.

Impacts of Financial Crisis

Dittmar and Dittmar (2008) reported a positive relationship between GDP growth and merger activity because economic growth stimulated excess cash flow and mergers. Cross-border M&As were constrained by capital supply and were less prevalent during economic recessions. The cost of capital is determined by both the demand and the supply side of funds. However, Pecking Order Theory did not consider the flexibility of the supply side of capital,

macroeconomic environment (Chang & Song, 2013). Rather, it focused solely on the demand side and on firm characteristics that drove external financing costs. Admittedly, ever-changing capital market conditions may play an important role in deciding funding source(s). The cost of issuing equity increased in times of financial crisis because the access to equity markets was limited even for many firms with low leverage and high growth rates (García-Feijóo et al., 2012). Declining GDP growth rates during a recession also caused debt costs to increase sharply (Broersen, 2011). To make it worse, due to the decreasing lending volumes and lower liquidity of banks, bank loans might no longer be available or might require high collateral to be carried out (García-Feijóo et al., 2012). Meanwhile, as the equity markets are the most volatile and cyclical, equity issues tend to increase over economic expansions and decrease over recessions. The proportion of equity in external financing was substantially lower during recessions (Choe, Masulis, & Nanda, 1993). The inability to borrow externally forced many firms to bypass profitable opportunities (Campello et al., 2010) or to rely more on internal funds for acquisitions (García-Feijóo et al., 2012). Firms also tried to hoard more cash just for precautionary purposes (Broersen, 2011). Therefore, we propose the following hypotheses:

H4a: Acquirers are more likely to adopt Cash Only financing during the 2007-2009 financial crisis than prior to and after the crisis.

H4b: Acquirers are less likely to adopt Debt financing during the 2007-2009 financial crisis than prior to and after the crisis.

H4c: Acquirers are less likely to adopt Equity financing during the 2007-2009 financial crisis than prior to and after the crisis.

CHAPTER IV

METHOD

The Data Set

Sample Selection and Data Sources

M&A Sample.

We built the initial sample of U.S. retail cross-border M&As completed during 2002-2014 from *Thomson One Banker* database. Drawing upon previous literature (Guariglia, 2008; Martynova & Renneboog, 2009; Pinkowitz et al., 2013), the deals included in our sample fulfill the following requirements: (i) the acquirer is incorporated in U.S. and its headquarter is located in U.S.. The target is a non-U.S. company; (ii) the first two digits of the acquirer's SIC code range from 52 to 59 (55 Auto Retailers are excluded); (iii) the acquirer's shares are traded on a U.S. stock exchange, but the target can be a public or private company, a joint venture or a subsidiary; (iv) financial and accounting data for the acquirer is available from *Compustat*, *Thomson One Banker M&A* and debt and equity *New Issue* database and/or other complementary sources (news announcements, SEC 10-K filings, prospectuses and circulation letters surrounding an acquisition announcement); and (v) information on financing source of the acquisition is found through *Thomson One Banker*, *LexisNexis* or SEC filings. A total of 91 completed M&A deals satisfy the above criteria. Information on an M&A deal's completion date, the acquirer's and target's country of origin, deal value, payment method and funding source, stake acquired and deal status in *Thomson One Banker* dataset were verified with information stored in various sources, such as LexisNexis, Factiva, Financial Times, Bloomberg and SEC filings. We found that the *Thomson One Banker* records were frequently inconsistent

with those of other information sources. We reexamined each entry and corrected the inconsistencies.

Instead of relying on secondary databases and news announcements as our main sources of information on financing source, we used SEC filings available through *WordsAnalytics* web portal as the most reliable information source. We consulted the *Thomson Financial New Issue* database and sought for public offerings of debt and equity by an acquirer when information from other sources was not available. But we found that (i) identifying the security issues made in connection with M&As is not as straightforward as suggested by previous research; (ii) the recorded debt and equity issues are incomplete, considering the database does not cover bank loans. Therefore, we only used *New Issue* database in rare cases. We partitioned the financing sources into three categories: (i) Cash Only (internal funds only); (ii) Debt; (iii) Equity. Since internal funds are at least partially used in almost all M&As, we differentiated only between transactions fully financed by internal funds (Cash Only) and those involving any external funds (Debt or Equity). Due to the cross-classified nature of our data and the relatively small sample size, we combined Debt/Equity mix with Equity financing. See Table 1 for sample description by financing source and payment method.

Table 1 Sample Composition by Cross-border M&A Financing Source and Payment Method

	All		Apparel		Consumer Electronics and Home Furniture		General Merchandise Stores		Food Stores		Eating & Drinking Place		Internet & Catalog	
	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
Total No. of M&As	91	100.00	6	6.59	17	18.68	26	28.57	4	4.40	14	15.38	24	26.37
Cash Financing	46	50.55	4	4.40	11	12.09	6	6.59	1	1.10	7	7.69	17	18.68
Cash Payment	46	50.55	4	4.40	11	12.09	6	6.59	1	1.10	7	7.69	17	18.68
Debt Financing	35	38.46	2	2.20	6	6.59	17	18.68	2	2.20	6	6.59	2	2.20
Cash Payment	35	38.46	2	2.20	6	6.59	17	18.68	2	2.20	6	6.59	2	2.20
Equity Financing	10	10.99	0	0.00	0	0.00	3	3.30	1	1.10	1	1.10	5	5.49
Cash Payment	2	2.20	0	0.00	0	0.00	1	1.10	1	1.10	0	0.00	0	0.00
Cash-Equity Payment	7	7.69	0	0.00	0	0.00	2	2.20	0	0.00	1	1.10	4	4.40
Equity Payment	1	1.10	0	0.00	0	0.00	0	0.00	0	0.00	0	0.00	1	1.10

Annual and Quarterly Financials Sample.

We built retail industry Annual and Quarterly Financials samples (i) to merge with our M&A sample and quantitatively measure an acquirer's financial constraints; (ii) to serve as the benchmark for comparison with other firms in the same sub-industry. We included all the U.S. retailers with SIC code 52-59 (Again, 55 Auto Retailers are excluded) and drew annual and quarterly financial data from S&P's *Compustat North America* database. All variables are denominated in U.S. dollars. A total of 7,131 firm-year observations involving 871 firms are included in the Annual Financials sample and a total of 28,030 firm-quarter observations are included in the Quarterly Financials sample. To control for the potential influences of outliers and/or coding errors, we excluded observations in the 1% tails for each independent variable and control variable, based on the assumption that these observations may involve particularly large size mergers, extraordinary financial shocks, and/or coding errors (Bond, Elston, Mairesse, & Mulkay, 2003; Cummins et al., 2006; Guariglia, 2008).

Sample Description and Initial Empirical Evidence

Appendix provides an overview of all the variables used in our empirical analyses together with a detailed description of their construction principles. All constructed variables are winsorized at the 1% and the 99% tails. After all data cleaning steps, our final panel data set includes 91 observations. Table 2 shows sample composition by a list of variables that capture acquirer, target, deal and institutional characteristics.

Table 2 Sample Composition by Acquirer, Target, Deal and Institutional Characteristics

Our final sample consists of 91 U.S. retail MNEs. This table provides an overview of the sample composition and contains a list of variables that capture acquirer, target, deal and institutional characteristics. All variables are defined in Appendix.

	Frequency N=91	Percentage 100%
Acquirer Sub-industry		
Apparel	6	6.59
General Merchandise Stores	26	28.57
Eating & Drinking Places	14	15.38
Consumer Electronics and Home Furniture	17	18.68
Food Stores	4	4.40
Internet & Catalog	24	26.37
Acquirer Age		
Young	23	25.27
Medium	50	54.95
Old	18	19.78
Acquirer Size (Total Asset)		
Small & Medium	19	20.88
Large	72	79.12
Top 10 Target Nations		
Canada	17	18.68
China	11	12.09
United Kingdom	10	10.99
South Korea	7	7.69
Germany	4	4.40
Taiwan	4	4.40
Australia	3	3.30
France	3	3.30
Ireland	3	3.30
Netherlands	3	3.30
Target Nation Development		
Developing Country	17	18.68
Developed Country	74	81.32
Deal Nature		
Horizontal	31	34.07
Non-horizontal	60	65.93
Financial Crisis Dummy		
2007-2009	22	24.18
Our of Crisis	69	75.82

Our sample covers six sub-industries in the retail sector (SIC 52-59): Apparel, General Merchandise Stores, Eating & Drinking Places, Consumer Electronics and Home Furniture, Food

Stores and Internet & Catalog. Given the specific nature of their businesses, Automotive Retailers are omitted from the sample. Based on the country classification of the IMF Fiscal Monitor (IMF, 2016), our sample is comprised of target firms in 22 developed and 8 developing countries. China is the only developing country in the top 10 target nations, which include Canada, United Kingdom, South Korea, Germany, Taiwan and Australia. Firm Age is the difference between the year when the transaction took place and the year when the firm was founded. The majority of acquirers are of medium age (55%) and large size (79%). 24 % acquisitions were carried out during the 2007-2009 financial crisis, while 76% during years prior to or after the crisis. Table 3 summarizes the distribution of deals over time.

Table 3 Distribution of Cross-border M&As Over Time

This table summarizes the distribution of cross-border M&As of U.S. retail MNEs over time by showing the mean and standard deviation of deal values and total deal number in a given year. The sample period is from 2002 to 2014.

Year	Deal Value		Deal Number	
	Mean	S.D.	No.	%
2002	228.19	299.60	7	7.69
2003	263.56	354.10	6	6.59
2004	88.56	107.23	18	19.78
2005	2524.775	2490.112	2	2.20
2006	246.52	297.71	5	5.49
2007	295.57	279.92	8	8.79
2008	603.84	789.20	7	7.69
2009	562.61	1012.109	7	7.69
2010	216.03	296.49	3	3.30
2011	659.06	917.08	7	7.69
2012	1844.92	3223.15	4	4.40
2013	37.85	34.97	5	5.49
2014	2552.51	5419.39	12	13.19
Total	10124.00	2187.43	91	100.00

Measurement

Internal Financial Constraints (IFCs)

We used normalized internal funds (internal funds/beginning-of-period total assets ratio) IF_q/AT_{q-1} as the basis to measure internal financial constraint. Cleary et al. (2007) and

Guariglia (2008) defined firms with negative CF_t/K_{t-1} ratio as internally constrained. But this criteria is not applicable in a retail context, because retailers are more likely than manufacturers to operate with a negative or low working capital and cash flow, particularly in an international context (Dawson & Mukoyama, 2006). Dawson and Mukoyama (2006) pointed out that retailers dealt with a large number of suppliers and consumers and were paid by consumers before payments to suppliers were made. Thus, retailers' current liabilities (e.g., short term debt and accounts payable) might be higher than current assets (e.g., cash, accounts receivable and inventory). Dawson and Mukoyama (2006) claimed that these zero-cost, short-term capitals (accounts receivable minus accounts payable) were more likely to finance the funds deficit in international expansions than in a domestic context. Therefore, to better fit our context, we added funds deficit decided by both supply and demand side of funds as an additional criterion for internal financial constraints. In order to be defined as internally unconstrained, an acquirer also needs to meet the requirement of having larger-than-deal value internal funds. Second, we also factored in sub-industry differences. A normalized internal funds ratio that is considered adequately high for a food store may be rather low for an internet retailer. For example, in 2004, WHOLE FOODS MARKET INC (0.15) and AMAZON.COM INC (0.65) were both considered having high normalized internal funds ratios and low level of internal constraints. Considering that the retail industry is quite seasonal, our internal financial constraint measure was based on quarterly financial data. We used subscript *q* to distinguish quarterly data from annual data *t*.

Internal Financial Constraints

1) Internally unconstrained (IFC = LOW), which equals to 0 if an acquirer's $IF_q/DEALVALUE \geq 1$ and IF_q/AT_{q-1} falls above top 33rd percentile of the

distribution of the corresponding ratios of all the firms operating in the same sub-industry in the fiscal quarter before the acquisition q;

2) Internally constrained (IFC = HIGH), which equals to 2 if IF_q/AT_{q-1} falls in the bottom 33rd percentile of the distribution of the corresponding ratios of all the firms operating in the same sub-industry in the fiscal quarter before the acquisition q;

3) Moderately internally constrained (IFC = MEDIUM), which equals to 1 if an acquirer does not fall into the above two categories.

External Financial Constraints (EFCs)

Firms are not externally constrained if they have access to either debt or equity markets (Hoberg & Maksimovic, 2015). Due to this fact, we measured debt-focused and equity-focused external constraints separately, using the Leverage Ratio (LR) and Asset Tangibility Ratio (TR) to jointly measure debt capability for debt-focused and Tobin's Q for equity-focused constraints (Alshwer et al., 2011). Leverage Ratio looks at how much capital comes from debt (Debt/Total Asset). It also assesses firms' capability to meet financial obligations. To make the two ratios comparable, we divided Tangible Asset by Total Asset to measure Asset Tangibility. By combining these two ratios, we included both firms with high debt ratio and with "zero-leverage" as debt-focused constrained.

Debt-focused Financial Constraints

1) Debt-focused unconstrained (DFC = LOW), which equals to 0 if an acquirer's Leverage Ratio (LR) falls in the bottom 33rd percentile and Asset Tangibility Ratio (TR) falls in the middle and top 33rd percentile of the distribution of the corresponding ratios of all the firms operating in the same sub-industry in the fiscal quarter before the acquisition q;

2) Debt-focused constrained (DFC = HIGH), which equals to 2 if an acquirer's Asset Tangibility Ratio (TR) falls in bottom 33rd percentile of the distribution of the corresponding ratios of all the firms operating in the same sub-industry in the fiscal quarter before the acquisition *q*;

3) Moderately debt-focused constrained (DFC = MEDIUM), which equals to 1 for all other LR and TR combinations.

Tobin's Q is a widely used proxy for growth opportunity of a firm (Alshwer et al., 2011). Tobin's Q is a ratio of Total Market Value/Total Assets. The value of Tobin's Q indicates the extent to which total market value exceeds total assets, which shows the firm's future growth opportunities. Tobin's Q is rather stable within a specific fiscal year. Therefore, we use annual financial data to calculate Tobin's Q.

Equity-focused Financial Constraints

1) Equity-focused unconstrained or moderately constrained (EFC = LOW/MEDIUM), which equals to 0 if an acquirer's Tobin's Q falls in the middle and top 33rd percentile of the distribution of the corresponding ratios of all the firms operating in the same sub-industry in fiscal year *t*;

2) Equity-focused constrained (EFC = HIGH), which equals to 1 if an acquirer's Tobin's Q falls in the bottom 33rd percentile of the distribution of the corresponding ratios of all the firms operating in the same sub-industry in fiscal year *t*.

Time trend variable: Financial Crisis

We introduced a dummy variable that captured the effects of the 2007-2009 financial crisis. If the year *t* falls in the period of 2007-2009, FinCrisis equals 0; otherwise, FinCrisis equals 1.

Financing Source

Due to lack of data availability, we were unable to identify the specific form of a debt financing (bank loan, loan notes or bond) or of an equity financing (public or private equity placement). Following Martynova and Renneboog (2009), we initially partitioned the sample into four mutually-exclusive, general financing source groups (Cash Only, Debt, Equity and Debt-equity mixed), Based on the fact that almost all M&As to some extent use internal financing, the latter three financing sources all involve internally generated funds. At a later stage, we merged the Debt-equity mixed financing source group with Equity financing group.

Robustness Check

To check robustness, we used Coverage ratio (*COV*) as suggested by Guariglia (2008) and the net liquidity to capital ratio (NLB/K_{q-1}) as suggested by Cleary et al. (2007) to replace IF_q/AT_{q-1}ratio as alternative categorization criteria. Coverage Ratio (COV) is referred to as the ratio between a firm's total profits before tax and interest and its total interest, which is a proxy for the availability of internal funds to finance investment.

S&P Credit Ratings (CR_{it}) and Collateral were used as proxies of debt-focused constraints. Collateral is defined as property or other assets that a borrower offers a lender to secure a loan (Martynova & Renneboog, 2009).

Market-to-Book (M-T-B) ratio was used as an alternative measure for the degree of equity-focused financial constraints (Deb, David, & O'Brien, 2017).

Model Specification

We used the following multinomial logit analysis framework as our baseline model. Pecking Order Theory provides a starting point for our analysis. The "actual financing decisions reflect many motives, forces, and constraints" (Martynova & Renneboog, 2009; Shyam-Sunder & Myers, 1999). We controlled a set of variables and focused solely on the role of financial constraints in takeover financing decision.

Suppose that $V_j(x)$ indicates the NPV of the acquisition (Net Present Value), where x is a vector of the acquirer's financial constraints dummy variables (internal, debt-focused and equity-focused financial constraints) associated with a specific financing source *j* that firm *i* used in an acquisition made in year *t* and *y* is a vector of control variables. β_j (and λ_j) is a vector of unknown regression coefficients of explanatory variables (and control variables) for each financing source j.

$$\mathrm{V}_j(x) = x'\beta_j + y'\lambda_j + \varepsilon$$

Pr_j is the probability of the financing source j if $\mathrm{V}_j > \mathrm{V}_k$ for all other $k \neq j$. j is one of the four financing sources ($j = 1$ for cash only, $j = 2$ for debt, $j = 3$ for debt-and-equity and $j = 0$ for equity financing).

$$\mathrm{Pr}_j = \mathrm{Prob}\left(\mathrm{V}_j > \mathrm{V}_k\right) \text{ for all other } k \neq j$$

The multinomial logit model is considered as two parallel binary logit models, each of which predicted the probability of a firm's financing source relative to the benchmark group, Cash Only financing$(j = 0)$. A series of Hausman tests was conducted to test the independence of irrelevant alternatives (IIA) assumption and the multinomial logit model validity (Hausman &

McFadden, 1984). For each test, when a financing source was excluded from the sample, we saw a proportionate increase in the probability of the other alternatives. Therefore, the IIA assumption holds (Hausman & McFadden, 1984). We set β_0 and λ_0 as 0 for benchmark group, Cash Only financing. The significance of a coefficient β_j provides us some valuable information, as the coefficient represents the odds ratio of each explanatory variable on the relative log-odds ratio. However, in the current study, we are more interested in the joint effect of three dimensions of financial constraints rather than the overall effect of any single variable. Fitting the multinomial logit model sets the foundation for the post-estimations that follow to test H1-H3. A set of control variables was considered for model selection: Target Public Status, Horizontal Deal, Acquirer Age, Acquirer Size, Deal Value, Target Nation Development (developing vs. development country) and fixed effect (year, industry and country) (Faccio & Masulis, 2005; Martynova & Renneboog, 2009). To test H4, we added a time trend variable of financial crisis and adopted binary logit model due to the fact that there was zero Equity financing observation during the 2007-2009 financial crisis.

CHAPTER V

RESULTS AND DISCUSSIONS

Univariate Analysis

The first column of Table 4 includes the independent variables and alternative variables for robustness check in our multinomial logit model. Table 4 presents the univariate means and standard deviations of the sub-industry subsamples, which reveals that ignoring cross-industry variations will cause serious problems while defining an acquirer's financial constraints level.

Table 4 The Mean Values and Standard Deviations of Variables Hypothesized to Be Related to the Acquirer's Financing Source

This table reports the mean values and standard deviations of variables hypothesized to be related to the acquirer's level of financial constraints and main control variables.

	All (N=91)		Apparel(N=6)		Consumer Electronics and Home Furniture(N=17)		General Merchandise Stores(N=26)		Food Stores(N=4)		Eating & Drinking Place(N=14)		Internet & Catalog(N=24)	
	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.	Mean	S.D.
Acquirer Age	34.46	27.08	45.33	17.93	26.53	11.26	59.62	30.29	49.5	33.79	25.93	15.79	12.58	7.00
Total Asset	25736.02	50973.56	2435.93	2261.54	8462.04	7622.43	72616.94	77257.62	1646.20	1241.50	3322.95	2812.44	10098.36	11170.49
Deal Value(m$)	709.91	2187.43	143.81	220.84	360.16	562.22	1367.03	3225.34	24.83	15.05	890.92	3039.73	365.82	890.84
Internal Funds	1178.97	1248.80	402.99	336.42	1173.75	937.16	1340.35	1832.85	171.38	115.59	505.93	507.13	1959.48	1096.24
Internal Funds (normalized)	.18	.15	.17	.09	.16	.08	.08	.09	.09	.05	.15	.16	.33	.15
Leverage Ratio	.24	.28	.12	.14	.11	.07	.46	.36	.30	.23	.28	.22	.09	.20
Asset Tangibility	.77	.17	.84	.17	.77	.14	.83	.15	.65	.25	.81	.20	.70	.16
Tobin's Q	3.05	2.27	1.84	.33	1.80	.59	2.03	.56	2.86	.86	2.87	1.59	5.39	3.01
Cash Flow	787.50	1532.04	84.55	65.85	333.00	412.14	2125.40	2353.59	45.31	35.38	175.43	189.17	296.04	231.90
Cash Flow (normalized)	.03	.02	.03	.01	.03	.01	.03	.02	.03	.00	.04	.02	.03	.03
Market-to-Book Ratio	4.38	6.45	2.81	.82	2.86	1.32	1.28	5.71	5.46	1.11	9.00	8.84	6.05	7.23

Note: Internal Funds (normalized) = Internal Funds/ Beginning-of-Period Total Assets; Cash Flow (normalized) = Cash Flow/ Beginning-of-Period Total Assets.

Multinomial Logit Model

Table 5 presents the results of our logit regression models. We examined if

Table 5 Multinomial (Binary) Logit Regression Analysis and Model Selection

Independent Variable	[1]	[2]	[3]	[4]	[5]	[6]	[7]
				Debt Financing (vs Cash Only)[a]			
Financial Crisis (vs. Out of Crisis)							
2007-2009				1.720	-1.270	1.161	
				(0.118)	(0.161)	(0.180)	
Business Cycle (vs. 2002-2003)							
2004-2006							-2.143
							(0.293)
2007-2009							-.103
							(0.884)
2010-2012							1.083
							(0.569)
2013-2014							-3.045
							(0.136)
IFC_IF(vs. Low)							
Medium	1.086	.410	.877		0.096	.140	.676
	(0.148)	(0.576)	(0.212)		(0.931)	(0.887)	(0.501)
High	**2.264*** **	**1.976***	**2.511***		**3.324***	1.376	**2.605** **
	(0.008)	**(0.078)**	**(0.050)**		**(0.058)**	(0.239)	**(0.011)**
DFC_LR&TR (vs. Low)							
Medium	.642	1.037	.554		1.431	**1.960** **	2.043
	(0.273)	(0.152)	(0.382)		(.400)	**(0.034)**	(0.161)
High	-.359	.549	.0621		0.625	-.376	-.672
	(0.586)	(0.417)	(0.933)		(0.954)	(0.648)	(0.430)
EFC_TobinQ (vs. Low/Medium)							
High	1.021	.995	1.210		**2.685** **	**2.347***	**2.757** **
	(0.101)	(0.146)	(0.068)		**(0.018)**	**(0.075)**	**(0.022)**
Horizontal (vs. Non-horizontal)							
Horizontal		-.723			-.762		
		(0.281)			(0.598)		
Acquirer Size (vs. Small/Medium)							
Large		**-1.875***	**-1.809***		**-2.275***		
		(0.068)	**(0.062)**		**(0.065)**		
Acquirer Age (vs. Young)							
Medium		1.431			-1.321		
		(0.233)			(0.639)		
Old		1.481			-4.481		
		(0.373)			(0.249)		
Target Public Status (vs. Public)							
Private		**1.545***	**1.335***		**3.072*** **	**2.671** **	**3.116** **
		(0.066)	**(0.065)**		**(0.005)**	**(0.035)**	**(0.021)**
J.V. / Sub.		-.029	-.490		.223	-.235	-1.123
		(0.969)	(0.426)		(0.857)	(.824)	(0.275)
Target Nation Development (vs. Developing Economy)							
Developed		**1.359***			**2.844***	**2.433** **	**2.629*** **
		(.058)			**(0.090)**	**(0.012)**	**(0.009)**

Table 5 (cont'd)

Deal Value		.001	.001		0.001		
		(.229)	(0.153)		(0.287)		
Intercept	-1.269	-2.427	-.269	**2.910***	1.924	-2.160	-1.247
	(0.109)	(0.062)	(0.787)	**(0.083)**	(0.575)	(0.101)	(0.435)
			Equity Financing (vs Cash Only)[b]				
Financial Crisis							
2007-2009					-		
Business Cycle (vs. 2002-2003)							
2004-2006							
2007-2009							
2010-2012							
2013-2014							
IFC_IF (vs. Low)							
Medium	.718	-.0154	-.417				
	(0.577)	(0.991)	(0.761)				
High	**2.279***	**2.413***	2.423				
	(0.058)	**(0.050)**	(0.110)				
DFC_LR&TR (vs. Low)							
Medium	1.124	.441	.858				
	(0.197)	(0.817)	(0.408)				
High	-.471	-1.190	-.999				
	(0.641)	(0.524)	(0.477)				
EFC_Tobin (vs. Low/Medium)							
High	.712	**-3.427****	-1.907				
	(0.445)	**(0.028)**	(0.229)				
Horizontal (vs. Non-horizontal)							
Horizontal		.998					
		(0.352)					
Acquirer Size (vs. Small/Medium)							
Large		-2.241	-1.727				
		(0.352)	(0.202)				
Acquirer Age (vs. Young)							
Medium		-1.867					
		(0.417)					
Old		-.523					
		(0.755)					
Target Public Status (vs. Public)							
Private		1.133	.524				
		(0.473)	(0.545)				
J.V./Sub.		**-6.936***	**-4.750*****				
		(0.060)	**(0.000)**				
Target Nation Development (vs. Developing Economy)							
Developed		-1.336					
		(.541)					
Deal Value		**.002*****	**.002*****				
		(.005)	**(0.000)**				
Intercept	**-2.464***	.941	-.725				
	(0.052)	(0.816)	(0.594)				

Table 5 (cont'd)

Pseudo R^2	0.114	0.395	0.330	0.367	0.561	0.431	0.512
Year Fixed Effect	No	No	No	No	No	No	No
Industry Fixed Effect	No	No	No	Yes	Yes	Yes	Yes
Country Fixed Effect	No	No	No	Yes	No	No	No

financing decisions were mainly driven by financial constraints after controlling for a set of well-studied variables. As mentioned above, many of the deals financed with the external source were also partially financed with internal funds. Therefore, we categorized the deals by the type of external funding source adopted. Our dependent variable takes the value of 0 if financing source is Cash Only, 1 if Debt and 2 if Equity. We used vce option in all the models to account for the correlation among deals of the same acquirer (cluster). Column (1)-(3) in Table 5 depict multinomial logit regression models with three dimensions of firm-level financial constraints as the predictor variables and financing source as the dependent variable and the model selection process. The final model in Column (3) forms the basis to test our hypotheses H1-H3. Columns (4) - (6) add a time trend variable to test the impacts of the 2007-2009 financial crisis (FinCrisis) on an acquirer's financing decision. Column (7) replaces the overall time trend variable in Column (6) with a five-level categorical variable at 2, 3-year intervals (FinCrisis2). Since the number of Equity financing deals was 0 during the 2007-2009 financial crisis, we were only able to compare Debt with Cash Only financing. We were not able to test H4c. Therefore, Column (4) - (7) use binary logit models. The final model in Column (6) corresponds to H4a-H4b. The model in Column (7) confirms the results in Column (6).

Column (1) reports the results using only the three firm-level financial constraints for the purpose of comparison. Column (2) shows the estimates of the expanded logistic model including a comprehensive set of control variables. The set of control variables includes: Target

Public Status (public, private, vs. subsidiary/joint venture), Target Nation Development (developing vs developed economy), Horizontal Deal (horizontal vs non-horizontal), Deal Value (continuous variable), Acquirer Age (young, medium vs old) and Acquirer Size (small/medium vs large).

Column (3) shows the best-fitted model through model selection. For all three models, the table reports the economic significance by providing the change in log odds that an acquirer chooses Debt (vs. Cash Only) or Equity (vs. Cash Only) for a one-unit change in a continuous independent variable or for the change from the base level in a categorical independent variable.

Our main model in Column (3) contains two binary logits that predict the log odds that Debt or Equity financing is chosen relative to our benchmark, Cash Only financing. The validity of the multinomial logit model was checked by testing the independence of irrelevant alternatives (IIA) assumption. As the tests failed to reject the IIA assumption, we concluded that a multinomial logit model was an appropriate approach for predicting financing source. LR chi-square (44.83 (18), $p < 0.05$), Pseudo R-squared (0.330) and Log Likelihood (-56.19) indicate good overall model fit.

Although our hypotheses focus solely on the interaction among different dimensions of financial constraints via multinomial logit post-estimations, some interesting findings from the multinomial logit regression analysis are worth noting. Specifically, the likelihood of Debt financing (relative to Cash Only) increases when internal financial constraints (IFC_IF) level is high (vs. low) and when targets are private firms (vs. public firms). However, large firms (Acquirer size) opt to employ their internal funds (relative to Debt financing).

The likelihood of Equity financing (relative to Cash Only) increases with the deal value (DealValue), while the deal value does not seem to have much influence on the adoption of Debt

financing. Compared to public firms, subsidiaries or joint ventures (J.V. / Sub.) are less likely to adopt Equity financing (relative to Cash Only).

The binary logit models in Column (4) - (6) only consider Cash Only and Debt financing observations. The model in Column (4) estimates a logit regression using a financial crisis (FinCrisis), a dummy variable (2007-2009 vs. Prior to and after Financial Crisis), as the only explanatory variable. The marginal coefficient does not indicate a significant increase in the fraction of Debt financing (relative to Cash Only) prior to or after the 2007-2009 financial crisis.

Column (5) shows results that replicate the full model with our main independent variables (three dimensions of firm-level financial constraints), control variables and fixed effects together with the financial crisis variable. We conducted model selection based on the expanded model in Column (5). Column (6) presents the results of the best-fitted model. The marginal effect related to the financial crisis is not significant in both Column (5) and Column (6). Model fit indices for Column (6) model are as follows: Wald chi-square ($29.91(14)$, $p < .05$), Pseudo R-squared (0.431) and Log Likelihood (-31.53). The model in Column (6) was used to test H4a and H4b directly.

The model in Column (7) is used to confirm the results in Column (6). Column (7) replicates Column (6) except for replacing the time trend variable with a 5-level categorical variable (2002-2004, 2005-2006, 2007-2009, 2010-2012 and 2013-2014). While the marginal effect is not significant, the new variable captures some unexplained variance from the macroeconomic environment as shown by increased model fit and Pseudo R2 (Wald chi2 (17) = 52.46, $p < .05$, Pseudo R2 = 0.512 and Log Likelihood = -27.05).

Post-estimation

Hypotheses H1-H3 focus on testing the interactions among three dimensions of firm-level financial constraints rather than testing the individual effect of each dimension. We used Stata 14 for its powerful post-estimation features. mlogit postestimation provides test statistics on the interaction effects even when the multinomial model does not include interaction terms. Drawing upon Williams (2012), we adopted Adjusted Predictions at Representative Values (APRs) to estimate the interaction effect at a specific value of each financial constraint dimension. Williams (2012) pointed out that since the interaction effect might differ significantly for different levels of a categorical variable, it was best to evaluate the response at different levels.

Table 6 shows the results for post-estimations. Column 2 of Table 6 specifies the interaction effects that we test in hypotheses H1-H3. Column 3 presents mlogit postestimation (APRs) estimating the probability that an acquisition is financed with each corresponding financing source in Column 1.

Table 6 Post-estimations for Hypothesis Testing

	IFC#DFC#EFC	Margin	S.E.	Z	P>z
H1a (supported)					
Cash	**LOW#LOW#LOW/MED**	**0.64[a]**	**0.12**	**5.38**	**0.000**
Debt	LOW#LOW#LOW/MED	**0.21[b]**	0.10	2.14	0.033
Equity	LOW#LOW#LOW/MED	**0.15[c]**	0.08	1.87	0.062
H1b (supported)					
Cash	**LOW#LOW#HIGH**	**0.49[a]**	**0.16**	**3.12**	**0.002**
Debt	LOW#LOW#HIGH	**0.45[a]**	0.16	2.86	0.004
Equity	LOW#LOW#HIGH	**0.05[b]**	0.02	2.44	0.015
H1c (not supported)					
Cash	**LOW#HIGH#LOW/MED**	**0.67[a]**	**0.12**	**5.77**	**0.000**
Debt	LOW#HIGH#LOW/MED	**0.23[a]**	0.10	2.34	0.019
Equity	LOW#HIGH#LOW/MED	**0.09[c]**	0.05	1.69	0.091
H2a (supported)					
Cash	MED#LOW#LOW/MED	**0.53[a]**	0.10	5.19	0.000
Debt	**MED#LOW#LOW/MED**	**0.37[a]**	**0.10**	**3.56**	**0.000**
Equity	MED#LOW#LOW/MED	0.10	0.07	1.52	0.128
H2b (supported)					
Cash	MED#LOW#HIGH	**0.33[a]**	0.15	2.17	0.030
Debt	**MED#LOW#HIGH**	**0.63[a]**	**0.15**	**4.08**	**0.000**
Equity	MED#LOW#HIGH	**0.04[b]**	0.02	2.53	0.011
H2c (not supported)					
Cash	**MED#HIGH#LOW/MED**	**0.54[a]**	**0.10**	**5.42**	**0.000**
Debt	MED#HIGH#LOW/MED	**0.40[a]**	0.11	3.82	0.000
Equity	MED#HIGH#LOW/MED	**0.06[a]**	0.02	3.02	0.003
H3a (supported)					
Cash	HIGH#LOW# LOW/MED	0.21	0.15	1.46	0.143
Debt	**HIGH#LOW# LOW/MED**	**0.53[a]**	**0.20**	**2.68**	**0.007**
Equity	HIGH#LOW# LOW/MED	**0.26[c]**	0.14	1.88	0.060
H3b (supported)					
Cash	HIGH#LOW#HIGH	0.10	0.11	0.95	0.340
Debt	**HIGH#LOW#HIGH**	**0.84[a]**	**0.12**	**7.11**	**0.000**
Equity	HIGH#LOW#HIGH	**0.06[b]**	0.03	1.98	0.048
H3c (not supported)					
Cash	HIGH#HIGH#LOW/MED	0.23	0.19	1.20	0.232
Debt	**HIGH#HIGH#LOW/MED**	**0.63[a]**	**0.23**	**2.79**	**0.005**
Equity	HIGH#HIGH#LOW/MED	**0.14[c]**	0.08	1.78	0.075

Notes. The *p*-value of the Wald Chi-square statistic is reported($Pr > \chi^2$). a/b/c stand for statistical significance at the 1%/5%/10% level, respectively. Statistically significant coefficients are denoted in bold.

For H1a, a financially unconstrained (LOW#LOW#LOW/MEDIUM) acquirer has a higher chance of using Cash Only financing (64%, $p < .01$). Therefore, H1a is supported, which confirms the pecking order hypothesis. Consistent with the observations of previous research (Almeida et al., 2004; Carpenter & Guariglia, 2008; Chang & Song, 2013), almost all the acquirers in this subsample are large, established firms with abundant cash holdings, more tangible assets, less outstanding debts, above B- S&P debt rating, and high Tobin's Q. Here are examples of statements that provide evidence indicating sufficient funding sources from SEC filings: "large available cash resource" (STARBUCKS CORP, 08/08/2003, 10-Q), "[i]n general, we believe that existing cash, cash equivalents and short-term investments, and any cash generated from operations will be sufficient to fund our operating activities, capital expenditures and other obligations for the foreseeable future"(EBAY INC, 03/25/2002, 10-K), "we expect that our cash generated from operations, together with our current cash, short-term investments and funds available under our main revolving credit facility, will be sufficient to fund our planned store openings and other recurring operating cash needs for at least the next twelve months" (STAPLES INC, 05/18/2004, 10-Q), "high cash flow and liquidity" and "financial strength to repurchase stock" (BIG LOTS INC, 08/31/2011, EX-99.2).

H1b shows that an internally and debt-focused unconstrained, but equity-focused constrained acquirer (LOW#LOW#HIGH) is more likely to use Cash Only financing, 49% ($p < .01$). Debt financing has the second largest probability, 45% ($p < .01$). This finding implies that equity-focused financial constraints do not influence the financing decision when the other two financing alternatives are available. H1b is supported, which further confirms Pecking Order Theory's prediction. On closer inspection, acquirers in this subsample have large internal capital reservoirs, fewer outstanding debts, more tangible assets, and low Tobin's Q.

H1c is not supported by our data. Contrary to our prediction, acquisitions are more likely to be financed by internal funds (67%, $p < .01$) than equity (9%, $p < .10$) for internally and equity-focused unconstrained, but debt-focused constrained acquirers (LOW#HIGH#LOW/MED). This means that acquirers opt to use their own internal funds when internal funds are abundant, although they could have easily raised funds via the equity market, which again confirms Pecking Order Theory. Most of the acquirers in this subsample are large, established firms with very large cash holdings (especially comparing to deal value), with small tangible assets and well above industry average Tobin's Q. We argue that these characteristics make it unnecessary for the acquirers to hold cash for precautionary purposes. In contrast, in Alshwer et al. (2011)'s LOW#HIGH#LOW subsample, acquirers tended to be small, young, without long-term debt or public debt rating, which also paid low dividends, had low profitability, and had strong growth opportunities. These debt-focused constrained acquirers preferred precautionary cash holdings and opted to finance in the equity market despite the high costs of equity financing. Therefore, it is important to distinguish the rationale underlying the high level of internal funds.

Moderately internally constrained, but debt-focused and equity-focused unconstrained acquirers (MEDIUM#LOW#LOW/MEDIUM) are more likely to use Debt financing (37%, $p < .01$) than Equity financing (10%, $p > .10$). This result supports our H2a. However, it is worth noting that Cash Only financing has an even higher probability (53%, $p < .01$), which may boil down to the way that we categorized internal financial constraints. Although their internal fund levels fall in the middle 33rd within each of its subindustries, some acquirers still have sufficient cash holdings to pay for the acquisitions if there is no need to preserve cash as a buffer. Our data also support H2b. Moderately internally constrained, debt-focused unconstrained, but equity-

focused constrained acquirers (MEDIUM#LOW#HIGH) are more likely to use Debt financing (63%, $p < .01$) than Equity financing (4%, $p < .05$). The evidence is in line with Shyam-Sunder and Myers (1999) prediction that ignoring debt market constraints, a firm will prefer borrowing or issuing debt over issuing equity. Combining H2a and H2b results, we conclude that with moderate internal financial constraints and low debt-focused constraints, acquirers are more likely to adopt Debt financing than Equity financing.

Our data suggest that Equity (6%, $p < .01$) is a less attractive financing source than Debt (40%, $p < .01$) for moderately internally unconstrained, debt-focused constrained and equity-focused unconstrained (or moderately constrained) acquirers (MEDIUM#HIGH#LOW/MEDIUM). Therefore, H2c is not supported. Cash Only and Debt turn out to be the most frequently used financing sources. Two possible explanations are: 1) Our data confirms Bottazzi et al. (2014)'s observation that debt-focused financial constraints are more relevant among small and young firms, but they affect large and old firms as well. Acquirers in this subsample are mostly larger, older firms that have abundant cash reserves to pay for the acquisitions without worrying about losing financial flexibility; 2) Debt financings in this subsample are in the form of issuing commercial paper [1], or by using existing credit facility (no new issue or bank loan), or by assuming the target firms' liabilities. Accessing these variations of debts eases the debt-focused financial constraints in loan and/or bond markets.

H3a and H3b suggest that internally constrained, debt-focused unconstrained acquirers, prefer Debt financing and that the level of equity-focused constraints does not seem to be relevant (HIGH#LOW#LOW/MEDIUM and HIGH#LOW#HIGH). These hypotheses attempt to validate that Pecking Order theory is an appropriate first-order explanation of the debt-equity

[1] an unsecured, short-term loan issued by a corporation, typically with the maturities between 1 and 2 months being the average, with a 9 month maximum.

choice for internally constrained acquirers. The likelihood of Debt financing is 53% ($p < .01$) comparing to Equity financing (26%, $p < .10$) in H3a and 84% ($p < .01$) comparing to Equity financing (6%, $p < .05$) in H3b. H3a and H3b are supported. H3c was originally designed to predict the financing decision of financially distressed firms. Contrary to our prediction, Debt (63%, $p < .01$) is the most preferred financing source among internally and debt-focused constrained acquirers (HIGH#HIGH#LOW/MEDIUM). Therefore, H3c is not supported. The acquirers in our subsample are not financially distressed firms. Rather, most of them are large, established firms with a low internal fund level. The potential causes of their preference of Debt over Equity financing can be two-fold: 1) most transactions took place in 2007, when raising funds via equity market was particularly hard for most companies; 2) these acquirers operate in traditional retail industries with relatively low Tobin's Q and low growth rates, such as department store, supermarket, and fashion chains. Therefore, the cost of Equity financing is not necessarily low.

H4 factors in the impacts of the supply side of the capital, particularly the 2007-2009 financial crisis. The coefficients of the time trend variable Financial Crisis in Column (6) and (7) of Table 5 are not significant, which indicates that acquirers' choices between Cash Only and Debt financing during the 2007-2009 financial crisis do not differ from those prior to or after the crisis. Therefore, H4a and H4b are not supported. Although we do not have enough data to test H4c, zero Equity financing observation during 2007-2009 implies that the equity markets were the most volatile during the financial crisis.

CHAPTER VI

CONCLUSIONS

Conclusions

Our study is inspired by an international phenomenon in the retail sector, the substantial presence of financial constraints faced by acquirers in cross-border Mergers and Acquisitions (M&As). International retailing research shows a lack of academic and empirical focus on financing strategies related to retail MNEs' international expansions. Therefore, we incorporate corporate finance literature for this study. We examined the financing decisions of U.S. retail MNEs in their cross-border takeovers, a behavior that was rarely studied in retail internationalization research and that also cannot be explained entirely by any single theory of capital structure. Pecking Order Theory is the most relevant capital structure theory for the study of cross-border M&As, as it bridges financial constraints (independent variable) and financing decision (dependent variable) via its information asymmetry assumption. Thus, Pecking Order Theory serves as the starting point of our study. Pecking Order Theory predicts the strict ordering of three financing sources. Internal financing is preferred over debt and debt over equity because the latter always involves greater information asymmetry and higher financing costs. However, Pecking Order Theory fails to identify two market imperfections: first, credit rationing in the debt market, which makes the equity market more attractive to borrowers despite its high cost; second, the frictions from the supply side of the capital. The concept of financial constraints is closely related to the two market imperfections. Research on financial constraints reveals highly discrepant results due to different measures of the concept itself. Drawing upon different

lines of financial constraints research, we argue that a multi-dimensional approach of measuring financial constraints may potentially eliminate the discrepancies.

Using *Thomson One Banker* and *Compustat* databases, we compiled a sample of 91 U.S. retail cross-border acquisitions during 2002-2014 with non-missing financing source information. The acquirers are 37 public retail MNEs incorporated and headquartered in the United States. Multinomial logit regression model was used as the basis of our analysis. The final model includes three dimensions of firm-level financial constraints as the independent variables (IVs) and financing source as the dependent variable (DV). To focus on financial constraints-financing source relationship, we controlled for a set of well-studied variables in the existing literature. The main model results show that acquirers are more likely to borrow than using internal cash when their internal funds level is low and when the target is a private (vs. public) firm, while large firms are more likely to use their internal funds (vs. borrowing). We also find that stock issuing (vs. borrowing) tends to increase with deal value and decrease when the acquirer is a subsidiary or joint venture (vs. public firm).

While multinomial logit model provides some interesting findings of the overall effect of each dimension of firm-level financial constraints, post-estimations further examined the effects of interactions among dimensions of financial constraints on an acquirer's financing decision. Exploring the financial constraints information from our sample, we find that an acquirer is more likely to fund the takeover with its internal funds under the following financial constraints combinations 1) low internal, low debt-focused and low or medium equity-focused financial constraints (LOW#LOW#LOW/MED); 2) low internal, low debt-focused and high equity-focused constraints (LOW#LOW#HIGH). These findings indicate that abundant cash reserves and debt capabilities are associated with Cash Only financing. Equity-focused constraints are not

relevant in deciding financing source under such circumstances. Pecking Order Theory is supported. We also find that an acquirer is more likely to fund the takeover with Debt than Equity under the following conditions: 1) medium internal, low debt-focused and low or medium equity-focused constraints (MED# LOW#LOW/MED); 2) medium internal, low debt-focused and high equity-focused constraints (MED#LOW#HIGH); 3) high internal, low debt-focused and low or medium equity-focused constraints (HIGH#LOW#LOW/MED); or 4) high internal, low debt-focused and high equity-focused constraints (HIGH#LOW#HIGH). These findings suggest that medium to high internal and low debt-focused constraints combination is more likely to be associated with Debt than Equity financing. Due to the fact that the majority of our sample are medium to large-sized, established, publicly-listed firms, our hypotheses that the validity of pecking order will be challenged as the result of credit rationing in the debt market are not supported. Therefore, our data analysis results provide partial support for the overarching hypothesis that Pecking Order Theory should be conditional on financial constraints. The financial crisis is not found to have a significant impact on the choice between Cash Only and Debt financing.

Using financial constraints to explain the contradicting findings of Pecking Order Theory, taking a multi-dimensional approach to studying financial constraints, distinguishing financing decision from payment method, and emphasizing the uniqueness of the retail industry set our study apart from previous studies. First, we argued that Pecking Order Theory is conditional on financial constraints and focused the current research on studying the impacts of financial constraints. Second, drawing upon different lines of literature on financial constraints, our study attempted to reconcile discrepant findings caused by different measures of financial constraints. By differentiating multiple dimensions of financial constraints and studying their interactions, we

extended the multi-dimensional approach of studying financial constraints in Guariglia (2008) and Hoberg and Maksimovic (2015) and provided a solution to fully capture the effects of financial constraints. For example, even for externally constrained firms, debt-focused constrained and equity-focused constrained firms can demonstrate very different characteristics. Our data confirm Hoberg and Maksimovic (2015)'s observation that debt-focused constrained firms tend to be larger, young firms, while equity-focused constrained firms tend to be smaller. Therefore, all three dimensions should be examined when we study financial constraints. Third, our study is one of the few that distinguished financing source from payment method (see Martynova and Renneboog (2009) for an exception). Our findings further confirmed Martynova and Renneboog (2009) conclusion that financial constraints are one of the main determinants of financing source. Last, we took into consideration the uniqueness of the retail industry by calculating the independent and control variables based on sub-industry benchmarks. We also modified measures of financial constraints tailored for manufacturing firms in the existing literature to reflect the uniqueness of retail industry.

Implications

Given the substantial presence of financial constraints and the importance of financing decisions in cross-border M&As, our study should shed light on retail MNEs' best financing practices. To decide on financing source, a retail MNE should evaluate its firm-level financial constraints as well as macroeconomic environment. When the economic growth rate is normal or high, an acquirer with adequate internal funds and large unused debt capabily should consider funding the acquisition with its own capital, while an acquirer without adequate internal funds or even constrained internally, but with large unused debt capability, good track record and/or bond ratings and established relationship with banks, may want to consider financing at least partially

in the debt markets rather than issuing equity. Equity financing is ideal for raising a large amount of money for mega-deals. When economic growth is stagnant, equity financing is the most adversely influenced option. Acquirers that do not want to forego investment opportunities should consider using internal funds, existing credit lines or borrowing.

Our data implies that the equity markets were the most volatile during the 2007-2009 financial crisis. Unlike large, mature firms, small, young firms lack track records and close relationships with commercial banks. Therefore, Equity financing may be a more attractive option for them. With the equity markets being frozen during the financial crisis, policy-makers may consider subsidizing or other policy in favor of such firms. Our study may potentially inform policy-makers' resource allocation decisions that will support small, young firms and help them survive and thrive during macroeconomic volatility.

Limitations and Future Research

As with all research, our study has limitations. First, the availability of financial data and financing source information puts constraints on the generalizability of our study. Following Martynova et al. 2009, we only included deals with publicly traded acquirers in our sample, because annual and quarterly financial data for private companies are largely unavailable. We retrieved data from a major private company financial database PrivCo, but the information was very limited and unusable. But public firms tend to be either medium/large, established firms or small, young firms with high growth rates. We found that over 1/3 cross-border acquisitions were undertaken by private acquirers. The SEC has strict rules about private company stock offerings and the qualifications for purchasing the shares, which means that financing decisions of private firms might demonstrate a completely different pattern from those of public firms.

Meanwhile, many acquirers chose not to release their financing source information publicly. Observations with missing financing source data were not included in our sample.

Second, considering the cross-classified nature of our data, our sample size is relatively small. The advantage of having a relatively small sample is that it is possible for us to manually look up and verify financing source information in SEC filings rather than relying solely on secondary information sources. However, the small sample also caused problems. For example, we are very interested in studying cross-subindustry differences. But due to small cell sizes (smaller than 5) for Equity financing (e.g., 0 deal in Apparel Retailing, 0 in Consumer Electronics and 1 in Eating Places, etc.), we were unable to include sub-industry (AcqSIC) in our multinomial logit models.

Third, the quantitative measure of financial constraints has its own limitations. We found that proxies measuring the same variable do not always provide consistent results, which is a very common problem in the existing literature. For example, Amazon (2004), Neiman Marcus (2014), and Sally Beauty (2011) are defined as low/medium equity-focused constrained by Tobin's Q, but highly equity-focused constrained by Market-to-Book Ratio. As another example, Leverage Ratio, one of the most commonly used proxies of debt-focused financial constraints, can be ambiguous in its interpretation. Low Leverage Ratio and debt level can be interpreted either as a sign of sufficient debt capability or a sign of difficulty to borrow in the debt markets. We tried to minimize the ambiguity by measuring debt-focused constraints with two variables combined, Leverage Ratio and Asset Tangibility Ratio.

Future research might want to address the aforementioned limitations in the following ways: First, design a survey based on the original sample (all U.S. retail cross-border deals during 2002-2014) created by *Thomson One Banker M&A* database, with the CFOs of the

acquiring firms as the respondents. Questions include the acquirer's public status, M&A financing source, CFO's perception or historical records of financial constraints, basic characteristics of the acquirer, the target, and the deal. The survey questions will be designed to supplement our secondary M&A and Financials data. Hopefully, this approach will create a larger, more comprehensive sample. Second, identify keywords in SEC filings for each dimension of financial constraints and use a text-based approach similar to that in Hoberg and Maksimovic (2015) to verify the measurement accuracy of financial constraints proxies defined by quantitative methods. Instead of relying on one single proxy or a few proxies that may provide conflicting information, an acquirer's unambiguous statement(s) about its own financial constraints in SEC filings is a more accurate overall measure.

APPENDIX

APPENDIX Variable Definition/Formula

Variables	Definition/Formula
Internal Constraints (IFC)	
Internal Funds (IF)	cash and short-term investments + net income (loss) + depreciation and amortization + cash dividends + Δworking capital
Internal Funds Normalized	IF/ total assets
Debt-focused Constraints (DFC)	
Leverage Ratio	(debt in current liability + long-term debt)/total assets
Asset Tangibility	tangible assets/total assets
Equity-focused Constraints (EFC)	
Tobin's Q	[stock price * number of shares outstanding + book value of assets -(book value of equity + balance sheet deferred taxes)]/ book value of assets
Asset Tangibility	tangible assets/total assets
Time trend variable	
FINCRISIS	financial crisis (2007-2009 vs Prior to or after the Crisis)
FINCRISIS1	alternative measure for the financial crisis (2007-2009 vs 2002-2003, 2004-2006, 2010-2012 and 2013-2014)
Control variables	
ACQSIC	acquirer's sub-industry category
ACQAGE	No. of years since incorporation ACQAGE = Young if ACQAGE <14 (25 quartile); ACQAGE = Old if ACQAGE >= 45 (75 quartile); ACQAGE = Medium if rest.
SIZE	acquirer total assets(Small/Medium vs Large) SIZE = Small/Medium if total asset < 15366.04 m$ (75 quartile); SIZE = Large if total asset >= 15366.04 m$.
DEALVAL	deal value
TARGPUBSTATUS	target's public status (Public, Private vs Subsidiary or J.V.)
HORIZONAL DEAL	intra or inter industry acquisition
TARNAT	development level of target nation (Developing vs Developed)
Robustness Test	
Coverage Ratio	EBIT/Interest operating revenue – operating Expenses + non-operating Income
Credit Rating	S&P ratings
Market-to Book Value (MTB)	(stock price * number of shares outstanding)/total common equity

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