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Mergers and Acquisitions in U.S. Retail Pharmacy

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Abstract

The retail pharmacy industry is the primary source of prescription medication for Americans. It has transformed away from a cottage industry of independent pharmacies and consolidated toward chain drug stores and mail order. This trend, its causes and consequences, are not fully understood. We use secondary data to study a sample of 87 large acquisitions in the industry. Findings indicate that in spite of rapid growth, profitability eroded. Stock investors respond positively to merger and acquisition announcements for both acquiring and acquired firms and negatively for rival firms not party to such transactions. We also show that the concentration of the retail pharmacy industry is negatively correlated with producer prices and positively correlated with profitability. Our findings are consistent with a view that retail pharmacies are merging to create countervailing power for bargaining leverage with other parties in the supply chain. The capital market perceives these mergers positively and shareholders benefit from these transactions.

I. INTRODUCTION

There has been considerable scholarly interest in the pharmaceutical industry with focus on relatively high prices and profit margins as well as mergers and acquisitions (M&A's) (Berndt, 2002; Danzon et al., 2012). Relatively less attention has been paid to the retail pharmacy, a primary point of contact between the consumer and their supply of most drugs. Chain drugs stores have evolved using economies of scale and scope along with marketing prowess to squeeze out smaller, more traditional retailers. The retail pharmacy also competes closely with grocery stores, general goods merchandisers and mail order services.

The retail pharmacy in the United States has evolved over centuries. In colonial North America, apothecaries compounded much of what they sold and were also a ready source of diagnosis for a wide range of ailments (Cowen, 1976). By the later 19th and early 20th centuries, the dispensing function of pharmacists was largely walled off from the diagnosis and treatment provided by physicians. This limited inappropriate prescribing by physicians and allowed each occupation to better specialize. Over time, the public's contact with pharmacists diminished. Today, most consumers hastily sign away their right to consultation with a pharmacist as they pick up their prescription. Arguably pharmacists, aided with e prescriptions, computerized adverse drug interaction tools, and wide-ranging automated prepackaged medications serve more as quality assurance managers in the production line of the retail pharmacy than as community healthcare providers.

Pharmacy benefit managers (PBMs) work to secure less costly prescription drugs for insurers, employers and others. They commonly advocate mail order as a cost-effective alternative. Mail order accounted for 17 percent of prescription sales in 2011 and market share has been increasing (IMS Institute for Healthcare Informatics, 2012).

The purpose of this paper is to explore M&A's in the retail pharmacy to identify trends and determine if the retail pharmacy has conformed to the pattern of higher prices for acquired firms and stable or falling share prices for acquiring firms. The study also explores countervailing power as a motive for M&A as well as the impact on the rival firms.

II. RETAIL PHARMACY AND NATIONAL HEALTH EXPENDITURES

Consumers obtain pharmaceuticals primarily in two different markets. One is institutional, such as hospitals. The second is retail, consisting largely of chain drugs stores, food stores, general merchandisers, mail order, and independent pharmacies. Table 1 shows the breakdown in prescription drug spending by dispensing location from 2007 to 2011. The dominance of retail is evident. Figure 1, shows growth of retail pharmaceutical spending as a share of National Health Expenditures (NHE). Retail prescription drug spending consumed a similar proportion of NHE half a century ago before widespread retail prescription drug insurance benefits prevailed. The share fell as insurance for hospitals and physician services advanced in the 1960's and 70's. It began to rise in the 1980's with more widespread pharmacy insurance benefits and development of new and expensive

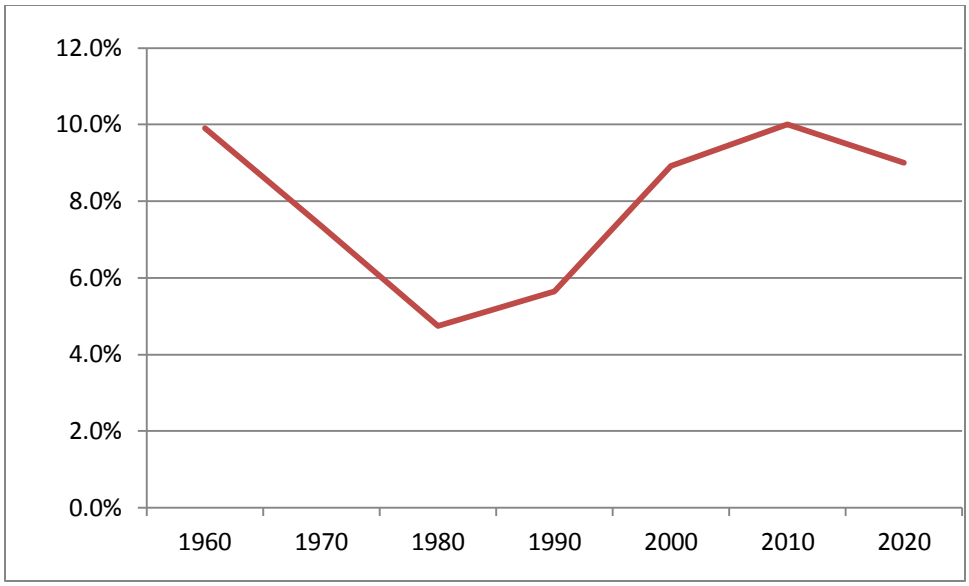
drugs, especially in the 1990's. The public sector, following the lead of the private sector, began offering retail prescription drug benefits with implementation of the Medicare Modernization Act in 2006. Figure 1 also projects allocation of retail prescription drug spending declining to about 9 percent in 2020 (Keehan et al., 2012). Greater use of low cost generics, soon to account for 85 percent of prescription drug dispensing, is expected to help curb additional increases in the share of NHE in spite of expansion of Medicaid and implementation of subsidized health insurance exchanges (Cuckler et al., 2013). On the other hand, there is growing concern about very costly new specialty drugs.

Table 1. Prescription Drug Dispensing in the United States by Location

Spending $BN	**2007**	**2008**	**2009**	**2010**	**2011 (Market Share)**
Total Market	**280.5**	**285.7**	**300.7**	**308.6**	**319.9 (100%)**
Retail	**199.1**	**203.5**	**215.0**	**219.3**	**227.3 (71%)**
Chain Stores	96.0	99.7	105.4	108.2	112.6 (35%)
Mail Service	44.1	46.5	51.0	51.8	55.1 (17%)
Independent	37.5	36.9	37.4	38.0	38.1 (12%)
Food Stores	21.5	20.4	21.2	21.3	21.5 (7%)
Institutional	**81.4**	**82.1**	**85.7**	**89.3**	**92.6 (29%)**
Clinics	32.7	33.0	34.8	36.8	38.4 (12%)
Non-Federal Hospitals	26.4	26.8	27.6	28.1	28.3 (9%)
Long Term Care	13.3	13.7	13.9	14.8	15.2 (5%)
Federal Facilities	4.0	3.9	4.1	3.9	4.2 (1 %)
Home Health Care	2.5	2.5	2.6	2.6	2.8 (1%)
HMOs	1.5	1.3	1.7	2.1	2.7 (1%)
Miscellaneous	1.0	1.0	1.0	1.0	1.0 (0.3%)

Source: IMS Institute for Healthcare Informatics, 2012

Figure 1. Retail Prescription Drug Spending as a Share of National Health Expenditures in the United States



Source: Center for Medicare & Medicaid Services

Growth of retail prescription drug spending, estimated at $918 per capita in 2012, has underpinned growth of chain drug stores. The National Association of Chain Drug Stores (NACDS) estimates there are about 41,000 pharmacies in the United States operating in drug stores, supermarkets and mass merchandisers (2012). This provides convenient proximity to pharmacists.

III. THE PHARMACY SUPPLY CHAIN, MARKET STRUCTURE AND PBMs

The pharmacy supply chain is a complex network of manufacturing, distributing, managing and financing entities (Brooks et al., 2008). Drug manufacturers, generic and branded, sell to drug wholesalers/distributers, pharmacies and PBMs based on negotiated terms and/or volume discounts. Pharmacies, if not supplied directly from the manufacturer, are supplied by wholesalers/distributers. In some cases, group purchasing organizations negotiate with wholesalers on behalf of pharmacies including those in hospitals. PBMs also directly supply pharmaceuticals to customers using their mail order pharmacies. Payment may come directly from the customer, but health insurance for pharmaceutical benefits is widespread. Customer payments are commonly limited to copayments and deductibles. Third party payment from government programs and private health insurers is often provided in association with PBMs. Rebates are another important feature of this market where manufacturer rebates to pharmacies, wholesalers/distributers and PBMs are widespread and not very transparent. PBMs may also provide rebates to

insurers. Retail dispensing fees generally have not covered dispensing costs and pharmacies rely on product pricing to offset cost and generate profit.

PBMs deserve special attention because of their growing importance in managing pharmaceutical distribution, use and cost. PBMs are driving much of the structural change in the industry. Their original purpose was claims processing and bill payment as subcontractors to insurers and managed care organizations. However, when prices of prescription drugs began to rise sharply in the 1980s, PBMs started to function as prudent purchasers, serving as middlemen between drugs companies and physicians, and negotiating to constrain costs (Congressional Budget Office, 2007). PBMs have considerable market power in negotiations with manufacturers, insurers and retail pharmacies. Express Scripts merged with Medco in 2012 in spite of resistance from the NACDS and others. The combined entity was estimated to have a market share of 40 to 45 percent (Abelson and Singer, 2012).

By shifting customers to mail order, PBMs promise to more efficiently avoid adverse drug interactions and other prescription errors. Automation and mail order, especially for chronic conditions, can substitute for much of retail pharmacy because many customers prefer convenient access to inexpensive drugs, not access to community pharmacists.

IV. MERGERS AND ACQUISITIONS: THEORETICAL PERSPECTIVES

The new classical theory of mergers and acquisitions focuses on synergy created between acquiring and target firms. The synergy can be generated from several channels. First, the combined firms can gain market power and appropriate more value from customers and suppliers after acquisitions (Prager, 1992). Second, mergers and acquisitions can help enhance business efficiency. The combined firms can reduce redundant investment and reduce business costs (McGuckin and Nguyen, 1995). Mergers and acquisitions can facilitate redeployment of assets and competency transfers to generate economies of scope (King et al., 2008). Third, mergers and acquisitions are considered to be an important external corporate governance mechanism to discipline inefficient managers. In an efficient market of corporate control, firms with weak performance become vulnerable takeover targets. Acquiring managers can increase shareholder's value by replacing poor management of target firms (Jensen, 1986). However, there is also a stream of literature suggesting that mergers and acquisitions reduce shareholders' value. It is shown that managers make acquisitions due to over-confidence and hubris bias (Roll, 1986). CEOs tend to overestimate their ability to turn around target firms, and overpay target companies (Malmendier and Tate, 2008). Some managers undertake merger deals for enhancing their private benefits. The "empire-building" hypothesis predicts and finds empirical support that management compensation generally increases, CEO discretion and power increases, and employment risk decreases after merger deals (Harford and Li, 2007; Grinstein and Hribar, 2004, Haleblian and Finkelstein, 1993).

It is also well-known that mergers and acquisitions usually take place in waves. The M&A wave is a response to environmental or regulatory changes in the market. Research has shown that environmental uncertainty increased the likelihood of

collaboration over acquisition (Duhaime and Schwenk, 1985; and Milliken, 1987). Furthermore, it was found that highly diversified firms were more likely to pursue acquisitions in decreasing environmental uncertainty, while the opposite occurred in less diversified firms (Bergh and Lawless, 1998). Firms not able to shift strategy with environmental changes are also more likely to make acquisitions (Thoronton, 2001). From the regulatory perspective, anti-trust deregulation and negotiation of free-trade agreements among segmented markets leads to more acquisitions and investment capital flows.

Mergers and acquisitions may also reflect the change in the competitive landscape between the upstream industry and the downstream industry. The dynamics of countervailing power between buyers and sellers was introduced by Galbraith (Galbraith, 1952). Countervailing power refers to the balance of market power between large organizations, often in vertical relationships. Welfare implications of bilateral market power were explored by Pauly (1988). Theory suggests that buyers may have incentive to consolidate in order to neutralize the market power of their suppliers. Snyder (1996, 1998) suggests that mergers between buyers can increase competition with colluding sellers, thereby allowing larger buyers to obtain lower prices and increase profits. Recently, Bhattacharyya and Nain (2011) find support of the countervailing power theory in a large sample of horizontal mergers and acquisitions across industries in the US firms between 1984 and 2003. They find strong evidence that buyer mergers can create market power and impact performance of dependent suppliers. Their study shows that dependent suppliers suffer large declines in their selling prices in the three years following major downstream consolidation activity.

The theory of countervailing power may explain the current consolidation trend in retail pharmacy. As pharmaceutical firms, PBMS and others gain market power, retail pharmacies can be expected to offset that power through mergers and acquisitions. This consolidation increases price pressure on suppliers and provides more earning space for retail pharmacy.

The valuation consequence of mergers and acquisitions has been examined extensively in the finance and business literature. Studies focusing on acquiring firms suggest that, in general acquisitions do not enhance the value of firms making acquisitions, both in the short-term as well as long-term. In fact, in several cases, researchers found acquisitions eroded the value of the acquiring firm (King et al., 2004; Seth et al., 2002). Studies focusing on target firms, on the other hand, find the value of target firms is enhanced in general. This is not surprising given that acquirers usually pay a premium to acquire targets. The third group of studies, looking at effects of acquisitions on the combined entity, finds that overall value of the combined entity is enhanced as a result of acquisitions (Carow et al., 2004; Wright et al., 2002). A decomposition of combined gains however suggests that target firms experienced the majority of gains while acquirers experienced neutral or negative returns (Leeth and Borg, 2000).

Despite overwhelming evidence showing value reduction for acquiring firms, M&A's continue to dominate the corporate world. A merger announcement is often viewed by managers as an indication of hyper competition. Consequently, rival firms either

want to be an insider to a merger event or try to prevent the merger from taking place. A common assumption fueling such a dynamic is that M&A's would be harmful to competitors of the firm making an acquisition. This is in line with efficiency and value enhancing mechanisms associated with M&A's, creation of market power, and generation of economies of scope through resource deployment (Puranam and Srikanth, 2007). However, we do not have any empirical evidence in the existing literature to validate that M&A's are harmful to the rival firms.

This paper makes a few unique contributions to the literature. First, most M&A studies focus on the general economy whereas we examine a particular industry. We study the valuation consequence of M&A's in the retail drug store and proprietary store industry (Standard Industrial Code 5912) for three groups of stakeholders: acquiring, target and competitor firms. Second, structural change in retail pharmacy provides an opportunity to observe the dynamic relationship between acquiring firms and competitors. There are very few studies that examine both the M&A firms and their rivals (Gaur, Malhotra and Zhu, 2013). Third, we also believe our study provides unique insights to practitioners in retail pharmacy as well as for policy makers.

V. TRANSACTIONS DATA

Most chain pharmacy stores are publicly listed firms facilitating collection of M&A transactions and financial information from publicly available secondary databases. Specifically, we collected M&A transactions from the Thomson Financial database. The Thomson Financial database is a standard M&A data source that has been extensively used in finance and business research. We focus on acquisitions with deal values exceeding 10 million US dollars. All acquisitions in our sample involve U.S. domestic target firms and acquiring firms in the retail-drug stores and proprietary stores industry. The acquisition status is recorded as either "completed" or "withdrawn" in the database. Finally, in order to examine the financial consequence of M&A transactions, we also require acquiring firm's financial data found in databases of the Center for Research in Security Prices ("CRSP") and Compustat. A total of 87 transactions were reviewed but 9 were cancelled. The final sample contains 78 completed M&A transactions between year 1981 and 2009. A list of the detailed transactions can be found in the Appendix. The total transaction value of the M&A sample is about 62 billion US dollars and the median transaction value is about $60 million US dollars. Out of the 78 acquisitions, 46 percent were made within the industry (acquiring and target firms are both chain pharmacy companies); and 54 percent of acquisitions diversified into other industries. About 23 percent of the deals acquired private firms and only 22 percent of the deals were paid by pure cash.

VI. METHODS

We adopt standard event study methodology (to analyze valuation impact of mergers and acquisitions on acquiring firms, target firms and rival firms (Brown and Warner, 1985). We collected daily stock prices for acquiring, target and rival firms around merger announcement dates. We used the capital asset pricing model to calculate cumulative abnormal returns for sample firms. We coded the

announcement date as t_0. We calculated abnormal returns for different time windows. Here, we employ the event window t_{-2} to t_{+2} (i.e., two days before and two days after the announcement date). Abnormal return can be calculated as:

$$AR_{j,t} = R_{j,t} - (\alpha + \beta * R_{m,t})$$

where $AR_{j,t}$ is the abnormal return, $R_{j,t}$ is the acquiring firm's daily stock return, $R_{m,t}$ is the daily stock-market return (i.e., value weighted CRSP stock index). The market model parameters, α and β, are estimated from the date of t_{-256} to t_{-64} (i.e., 256 days to 64 days) before the announcement date. We added daily abnormal returns to measure cumulative abnormal returns (CAR) for acquiring firm j during the five-day period (-2, +2) surrounding the acquisition announcement.

$$CAR_j = \sum_{t=-2}^{+2} AR_{j,t}$$

To confirm the robustness of our findings, we conducted the analysis using multiple announcement windows, such as t (-1, +1) and t (-1, 0). We also follow Schwert (1996) to calculate abnormal returns in the stock return run-up period: t (-63, -1), the post-acquisition period t (0, +126), and the entire M&A event window t (-63, + 126).

We used the same market model to calculate cumulative abnormal returns for each rival firm in the industry, noted as $CAR_{r,i}$. Specifically, for each acquisition announcement, we calculated abnormal returns for all rival firms in the acquiring firm's industry during the five-day event window. This resulted in 911 CAR observations in our rival firm sample. Abnormal returns of the rival firms cannot be considered independent observations according to Song and Walkling (2000), because rival firms in the same industry react to an acquisition announcement at the same time. To correct for this cross-sectional dependence problem, we adopted the procedure suggested by Song and Walkling and grouped the rival firms' CARs into industry portfolios. Each portfolio of CARs of rival firms is the average of the CAR of the individual rival firm in each industry after an acquisition announcement.

$$CAR_{p,i} = \frac{1}{N}\sum_{r=1}^{N} CAR_{r,i}$$

where $CAR_{r,i}$ is the cumulative abnormal return for a rival firm *r* in industry *i*, N is the number of rival firms in industry *i*, and $CAR_{p,i}$ is the abnormal returns of the rival firm portfolio, which is essentially average abnormal returns of each rival firm in the industry portfolio. There are 87 industry rival firm portfolios corresponding to 87 acquisition announcements (both completed and withdrawn deals) made during the study period. We use a t test to examine whether the rival firms' reaction to the focal firm's M&A announcement is significantly different from zero or not. The dataset contains both existing firms as well as delisted firms due to takeovers, bankruptcy, privatization, or other reasons. Thus, there should be little survival

bias.

VII. RESULTS

First, we aggregate the firms' sales for the last thirty years. According to the Compustat database, from 1980 to 2010, publicly listed retail chain pharmacy firms increased sales from 4.8 million USD to 236 million USD, yielding an average annual growth rate of 20 percent. In spite of size and growth, the profitability ratio did not increase. Industry profitability (i.e., industry average return on assets) dropped 50 percent since the early 1980's.

We correlate the Herfindahl index with the Bureau of Labor Statistics producer price index for pharmacies and drug stores and the industry ROA ratio in each year between 1990 and 2011. Our results in Table 2 show a significant and negative relationship between the market concentration measures and the producer price index data. The industry concentration measures are also found to be positively correlated with industry profitability in the 21 year sampling period. These results confirm the importance of analyzing the consolidation trend of the retail pharmacy industry. As the retail pharmacy industry consolidates, price pressure is exerted on suppliers. Our results are consistent with findings about countervailing power in Bhattacharyya and Nain (2011). A chronological list of M&As with transaction values is shown in Table 3.

Table 2. Correlation of industry concentration, producer price index and industry profitability

	Pearson Correlation	[1]	[2]	[3]	[4]
[1]	Herfindahl Index	1			
[2]	Top 2 Firms' Market Shares	0.899***	1		
[3]	Producer Price Index	-0.779***	-0.501**	1	
[4]	Industry Return on Assets	0.777***	0.699***	-0.771***	1

*** 1% significance, ** 5% significance.

Table 3. Retail Pharmacy Mergers and Acquisitions

Year	Number of M&A Deals	Total Value of Transaction ($mil)
1981	3	192.65
1983	2	77.68
1986	1	13.62
1987	1	120.00
1988	1	18.86
1990	2	418.25
1991	3	100.40
1992	3	72.90
1993	4	48.10
1994	5	247.93
1995	7	259.33
1996	4	2,569.83
1997	7	5,079.59
1998	8	3,569.37
1999	3	248.50
2000	3	236.08
2001	1	115.00
2002	1	341.37
2003	1	90.00
2004	3	4,020.06
2005	4	3,964.06
2006	4	29,787.58
2007	4	2,447.66
2008	2	2,885.42
2009	1	4,675.00
Total	78	61,599.24

Source: SDC Thomas Financial database

VIII. VALUATION IMPACT OF MERGERS AND ACQUISITIONS

Table 4 shows results for acquiring, target firms and their rivals in M&A's. We examine both acquisitions that were successfully completed after the announcements and acquisitions that were not successful and were subsequently cancelled by acquiring firms. In our sampling period, there are 78 completed acquisitions and 9 cancelled acquisitions.

Table 4. Announcement Returns for Acquiring Firms, Target Firms and Rival Firms in the Acquiring Industry

Event Study	Cancelled Acquisitions					Completed Acquisitions				
Cumulative Abnormal Returns	N	Mean	Median	Std. Dev.	t value	N	Mean	Median	Std. Dev.	t value
Panel A. Acquiring firms stock performance [event day range]										
ACAR[-63,-1]	9	.008	.002	.261	.092	78	.046	.019	.416	.984
ACAR[0,126]	9	-.376	-.113	.535	-2.110	78	.030	.028	.645	.412
ACAR[-63,126]	9	-.368	-.168	.453	-2.439 **	78	.076	-.035	1.003	.673
ACAR[-1,+1]	9	.072	.055	.162	1.332	78	.024	.015	.104	2.040 **
ACAR[-2,+2]	9	.101	.064	.215	1.407	78	.026	.024	.105	2.187 **
ACAR[-1,0]	9	.050	.025	.111	1.353	78	.018	.007	.078	1.977 *
Panel B. Target firms stock performance [event day range]										
TCAR[-63,-1]	6	.145	.082	.293	1.207	16	.269	.207	.373	2.888 **
TCAR[0,126]	6	.123	.147	.319	.945	16	.276	.250	.232	4.757 ***
TCAR[-63,126]	6	.268	.026	.514	1.276	16	.545	.504	.539	4.042 ***
TCAR[-1,+1]	6	.034	.072	.095	.874	16	.255	.249	.256	3.995 ***
TCAR[-2,+2]	6	.077	.060	.085	2.213 *	16	.284	.266	.273	4.157 ***
TCAR[-1,0]	6	.051	.043	.071	1.742	16	.234	.204	.257	3.648 ***
Panel C. Rivals of Acquiring firms stock performance [event day range]										
RCAR[-63,-1]	9	.003	.005	.092	.087	78	-.001	.007	.084	-.112
RCAR[0,126]	9	.076	.010	.158	1.446	78	-.027	-.007	.144	-1.672
RCAR[-63,126]	9	.063	-.001	.206	.925	78	-.014	.029	.203	-.588
RCAR[-1,+1]	9	.003	.006	.012	.623	78	-.003	-.004	.013	-1.757 *
RCAR[-2,+2]	9	.009	.008	.012	2.214 *	78	-.004	-.003	.013	-2.663 ***
RCAR[-1,0]	9	.002	.000	.011	.468	78	-.005	-.006	.019	-2.215 **

*** 1% significance, ** 5% significance, * 10% significance.

Table 4 shows that the 5-day CAR in the two days before and two days after the acquisition announcement is about +2.6 percent for completed deals. The average CAR is positive and statistically significant at 5%. The median CAR statistic is 2.4 percent, which is very close to the mean value suggesting results are not affected by outliers. In addition, the robustness tests using different announcement windows, such as CAR (-1, +1), and CAR (-1, 0), lead to the same conclusions. We find the stock market reacted positively to acquiring firms' M&A announcements. In other words, M&A deals increased value for acquiring firms.

We do not find the same positive announcement returns for cancelled deals. Actually for a longer time window, we found the stock price of unsuccessful acquiring firm's dropped by 36.8% (compared to a median stock price drop of 16.8 percent) (63 days before acquisition to 126 days after acquisition). Such large negative returns are mainly concentrated in the post announcement period, and it is most likely due to the disappointing news of canceled deals.

We also examine the announcement impact on target firms. We note that the sample size for the target firms is much smaller as some target firms were private and did not provide stock price data to calculate the CAR measure. Not surprisingly, target firms on average experienced 28.4 percent increase in shareholders' value during the five-day window around the M&A announcements. The CARs are positive and statistically significant at 1 percent for each of the announcement windows as well as the run-up period (-63 day to -1 day) and the post-acquisition period (0 to

+126 day). According to Schwert (1996), the CAR (-63, +126) can be used as a proxy measure of acquisition premium. This measure yields an average acquisition premium paid in the sample of 54.5 percent. We do not find consistent results for cancelled acquisitions.

In addition to the valuation impact on participating firms in mergers and acquisitions, we extend the event study to rival firms in the industry. For each of the completed M&A announcements, we calculate the CARs of rival firms during the announcement time window. We then take the average of the rival CARs for each M&A event and show mean and standard deviation of the sample average rival firms' CARs in Table 3 (Panel C).

We find that on average rivals of the acquiring firms lose 0.4 percent of stock value upon the M&A announcements during the 5-day window. This announcement return is statistically significant at the 5 percent level. The average market capitalization of rival firms in the sample is around $3.5 billion and the -0.4 percent valuation impact results in a loss of about $14 million dollars per rival firm. This valuation impact is not only statistically significant, but also economically significant. It suggests that rival firms not consolidating may face lower profit margins and less opportunity to grow and survive. The market and investors signal pessimism about the future of rival firms. This evidence further supports our view that consolidation to achieve economic scale and scope and market power is a driving force in the industry. Interestingly, for the cancelled acquisitions, we find that the average announcement returns of the rival firms are positive and marginally significant at 10 percent for the (-2, +2) event window. This evidence suggests that the rival firms' survival rate may increase if the focal acquisition fails.

VIII. CONCLUSION

We find that M&As create value for both acquiring and target firms in the retail chain pharmacy industry. We also show that the concentration of the retail pharmacy industry has negative impact on the Producer Price Index and positive impact on the profitability of the industry. This supports a defensive strategy hypothesis associated with countervailing power. Investors in the financial market seem to agree that consolidating, gaining market power and increasing efficiency through mergers and acquisitions is an essential and effective business strategy to survive in the industry. We also find that competitors of acquiring firms were affected negatively by M&A announcements. Our view is that defensive consolidation is a driving force. Profitability levels have not generally increased but consolidation defends against erosion of profits. Other explanations for M&A also exist. Perhaps ownership is shifting to more efficient management. Or economies of scale and scope may be motivating factors. More research is needed to better explore reasons for M&A in retail pharmacy.

The market structure of the retail pharmacy is very pertinent to the effectiveness and efficiency of the US healthcare system. There is expectation that pharmacists will enjoy a wider scope of practice going forward. The availability of pharmacy services will take on different dimensions in the future beyond dispensing of prescription drugs. Pharmacists will become part of a more integrated fabric of

medical care with wider networks of primary care providers as well as more complex hospital systems. It is not clear how industry consolidation will affect the healthcare and health of Americans. But it is another topic worthy of research.

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Appendix – Mergers and Acquisitions in the Retail Pharmacy Industry (1981 – 2009)

Date Announced	Date Withdrawn	Acquirer Name	Target Name	Value of Transaction ($mil)
01/27/81		Gray Drug Stores Inc	Drug Fair Group Inc	33.70
03/03/81		Jack Eckerd Corp	American Home Video Corp	94.75
07/13/81		Melville Corp	Kay-Bee Toy & Hobby Shops Inc	64.20
07/18/83		Omnicare Inc	CR Bard Inc-Inspiron Division	21.00
12/07/83		Pay'n Save Inc	Schuck's Auto Supply Inc	56.68
03/24/86		Thrifty Corp	Guild Inc	13.62
05/01/87		Rite Aid Corp	Gray Drug Fair(Sherwin-Willms)	120.00
08/17/88		Rite Aid Corp	Begley Co	18.86
06/25/90		Melville Corp	Peoples Drug Stores(Imasco)	330.00
07/02/90		Melville Corp	Circus World Toy Stores-Assets	88.25
02/06/91		Fay's Inc	Carl's Drug Co	30.00
06/03/91		Melville Corp	Foot Action Inc	46.00
10/23/91		Omnicare Inc	Langsam Nursing Pharmacy Inc	24.40
10/30/91	01/09/92	Rite Aid Corp	Revco DS Inc(Anac Hlding)(OLD)	738.95
02/11/92		Omnicare Inc	Pharmacare,Pharmacare IV Svcs	25.00
05/05/92		Rite Aid Corp	Hannaford Bros-34 Wellby Strs	30.00
10/14/92		Omnicare Inc	Westhaven Pharmacy	17.90
04/08/93		Omnicare Inc	Clar-Ron Inc	13.50
06/21/93		Perry Drug Stores Inc	ALP Acquisition LP-11 AL Price	10.80
07/21/93		Longs Drug Stores Corp	Bill's Drugs Inc	12.00
11/16/93	01/11/94	Perfumania Inc	Prestige Fragrance & Cosmetics	45.52
12/02/93		Omnicare Inc	Enloe Drugs Inc	11.80
03/16/94	05/11/94	Pharmhouse Corp	All For A Dollar Inc	12.33
05/02/94		Rite Aid Corp	LaVerdiere's Enterprises Inc	50.00
05/31/94		Omnicare Inc	Evergreen Pharmaceutical Inc	43.90
06/30/94		Omnicare Inc	Lo-Med Prescription Services	11.78
08/16/94		Perfumania Inc	FoxMeyer-Fragrance Inventory	10.80
12/27/94		Rite Aid Corp	Perry Drug Stores Inc	131.46
02/01/95		Pharmhouse Corp	FW Woolworth-Rx Place Disco Dr	37.00
02/21/95		Health Management Inc	Caremark Intl-Clozaril Patient	24.00
05/16/95		Omnicare Inc	Specialized Pharmacy Services	10.73

06/21/95		Rite Aid Corp	Pathmark-Drug Stores(30)	63.60
06/28/95		Eckerd Corp	Rite Aid Corp-Drug Stores(109)	75.00
08/07/95	08/31/95	Perfumania Inc	Cosmetic Center Inc	56.68
09/05/95		Omnicare Inc	Rite Aid Corp-Nursing Home	10.00
10/23/95		Drug Emporium Inc	F & M Distributors Inc-Stores	39.00
11/29/95	04/24/96	Rite Aid Corp	Revco DS Inc	2,126.82
05/06/96		Drug Emporium Inc	Eagleville Pharmacy-I Got It	11.00
06/24/96		Capstone Pharmacy Services Inc	Symphony Pharmaceuticals Inc	150.00
09/09/96	04/02/97	Phar-Mor Inc	ShopKo Stores Inc	1,050.63
10/14/96		Rite Aid Corp	Thrifty Payless Holdings Inc	2,393.96
11/07/96		NCS HealthCare Inc	Clinical Health Systems	14.87
01/03/97		Capstone Pharmacy Services Inc	Portaro Pharmacies Inc	20.58
01/07/97		Capstone Pharmacy Services Inc	Clinical Care Health Care Svcs	20.32
01/27/97		CVS Corp	Revco DS Inc	3,911.71
01/29/97		Omnicare Inc	Coromed Inc	15.00
04/16/97		Capstone Pharmacy Services Inc	Pharmacy Corp of America Inc	862.50
08/11/97		Capstone Pharmacy Services Inc	Med-Tec Pharmaceutical	16.30
08/14/97		Omnicare Inc	American Medserve Corp	233.18
02/09/98		CVS Corp	Arbor Drugs Inc	1,475.09
02/23/98		Omnicare Inc	CompScript Inc	68.39
03/31/98		Omnicare Inc	IBAH Inc	154.26
07/30/98		Omnicare Inc	United Professional Cos	254.69
08/05/98		Duane Reade Inc	Rockbottom Stores	61.00
08/19/98		PharMerica Inc	Natl Insitutional Pharm Svcs	20.90
11/17/98		Rite Aid Corp	PCS Health Systems	1,500.00
12/17/98		Phar-Mor Inc	Pharmhouse Corp	35.05
01/04/99		Drug Emporium Inc	VIX Drug Store(Tops Markets)	32.50
05/17/99		CVS Corp	Soma.com	30.00
09/15/99		Longs Drug Stores Corp	Rite Aid Corp-CA Stores(38)	186.00
01/14/00	02/22/00	Perfumania.com Inc	Biz2Net Corp	111.60
03/16/00		Healthcentral.com Inc	Vitamins.com	98.98
07/05/00		CVS Corp	Stadtlander Drug Co(Counsel)	124.00
07/25/00		Healthcentral.com Inc	Drugemporium.com	13.10
12/06/01		Omnicare Inc	American Pharmaceutical Svcs	115.00
07/29/02		Omnicare Inc	NCS HealthCare Inc	341.37
06/17/03		Omnicare Inc	Sunscript Pharmacy Corp	90.00
03/22/04		Drugmax Inc	Familymeds Group Inc	49.34

04/05/04		CVS Corp	JC Penney-Eckerd,TX & FL	2,150.00
05/24/04		Omnicare Inc	NeighborCare Inc	1,820.72
02/23/05		Medco Health Solutions Inc	Accredo Health Inc	2,192.12
07/01/05		Omnicare Inc	RxCrossroads LLC	235.00
07/11/05		Omnicare Inc	ExcelleRx Inc	268.75
07/21/05		Express Scripts Inc	Priority Healthcare Corp	1,268.19
04/12/06		Longs Drug Stores Corp	Network Pharmaceuticals-(22)	10.00
08/16/06		Omnicare Inc	Rainier Home Health Care	14.00
08/24/06		Rite Aid Corp	Jean Coutu Group(PJC)USA Inc	3,470.00
11/01/06		CVS Corp	Caremark Rx Inc	26,293.58
12/18/06	03/16/07	Express Scripts Inc	Caremark Rx Inc	24,948.19
02/15/07		Walgreen Co	Familymeds Grp Inc-Pharmacy As	60.00
07/02/07		Walgreen Co	Option Care Inc	967.24
08/28/07		Medco Health Solutions Inc	PolyMedica Corp	1,279.17
12/21/07		E Com Ventures Inc	Model Reorg Inc	141.25
06/13/08		Express Scripts Inc	Medical Services Co Inc-Pharm	248.00
08/12/08		CVS Caremark Corp	Longs Drug Stores Corp	2,637.42
09/12/08	10/08/08	Walgreen Co	Longs Drug Stores Corp	2,785.35
04/13/09		Express Scripts Inc	NextRx Inc	4,675.00

Source: Thomson Financial database.