Quantifying Medco's Business Model: An Update

By
Lawrence W. Abrams, Ph.D.

11/16/08

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Trend in Average Rebates Received Per Brand Script

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Disclosures:

I have not received any remuneration for this paper.

I have a Ph.D. in Economics from Washington University in St. Louis and a B.A. in Economics from Amherst College. Other papers on PBMs can be accessed at www.nu-retail.com

Key Results:

Table 1: How Medco Reports Its Revenue and Cost Model

	Revenue		Costs		Gross Profit	Margin Share	Margin
	source	**Mil $**	**source**	**Mil $**			
PBM Rx Transactions	10-K	$37,981	10-K	$35,839	$2,142	72.7%	5.6%
Specialty Rx Transactions	10-K	$5,981	10-K	$5,563	$417	14.2%	7.0%
Fees from Pharma	10-K	$153	10-K	$0	$153	5.2%	100.0%
Fees from Clients	10-K	$391	10-K	$158	$233	**7.9%**	59.5%
Totals- FY07	10-K	$44,506	10-K	$41,561	$2,945	100.0%	6.6%
		Mil					
Members	A.I.S.	60					
PMPY Fees from Clients		**$6.52**					
PMPY Gross Profits From Transactions		**$42.66**					

http://www.aishealth.com/MarketData/PharmBenMgmt/PBM_market01.html covered lives 2Q07
Medco Health Solutions, Form 10-K for year ending December 29, 2007, Available at
http://yahoo.brand.edgar-online.com/DisplayFiling.aspx?dcn=0000950123-08-001863

A "Stylized" Financial Model of Mail Order Prescription Margins by Drug Type

	New Generic (e.g. simvastatin)	Old Generic (e.g.lovastatin)	Brand (e.g. Lipitor)	Model Weighted Average	Derived Medco
Rx Volume Share	3%	47%	50%	100%	
Revenue/Rx	$123.80	$54.20	$285.84	$172.11	$172.11
Total Cost of Sale	$62.40	$31.20	$280.00	$156.57	$156.60
Gross Profit / 90 Day Rx	**$61.40**	**$23.00**	**$5.84**	**$15.54**	**$15.51**
Margin %	**49.6%**	**42.4%**	**2.0%**	**9.0%**	**9.0%**

Table 6: Estimates of Unit (30 count) Margins by Source by Drug Type by Channel

Spread	Abrams Update	Table 3	123	Million $
Retail Adj Scripts	Abrams Update	Table 5	465	Million
Spread / Adj Retail Rx		divide	$0.26	
Retained Rebates	Abrams Update	Table 3	548	Million $
Brand Adj Scripts	Abrams Update	Table 5	320	Million $
Rebate / Adj Brand Rx		divide	$1.71	

Channel	Source	Drug Type		
		New Generic	Old Generic	Brand
Retail	Spread Margin	$0.26	$0.26	$0.26
Retail	Mail Order Rx Margin			
Retail	Retained Rebates			$1.71
Mail Order	Spread Margin			
Mail Order	Mail Order Rx Margin	$20.47	$7.67	$1.95
Mail Order	Retained Rebates			$1.71

Estimates of Unit (30 count) Margins by Drug Type by Channel

		New Generic	Old Generic	Brand
Retail	All Sources	$0.26	$0.26	$1.97
Mail Order	All Sources	$20.47	$7.67	$3.66

Table 8: Comparison of Estimates of Share of Aggregate Transactional Gross Profit by Drug Type by Channel

Total Margin by Drug Type and Channel - %
Abrams Derivation from 2007 Medco Update
Source: Table 7, Medco Update Paper

	Generic	Brand	**Total**
Retail	3.6%	16.8%	**20.4%**
Mail Order	54.8%	24.9%	**79.7%**
Total	**58.4%**	**41.7%**	**100.1%**

Total Margin by Drug Type and Channel - %
Abrams Derivation from FTC 2002-3 Study
Source: Exhibit 3, Misalignment paper - reference 12 below

	Generic	Brand	**Total**
Retail	-0.1%	22.1%	**22.0%**
Mail Order	39.0%	39.0%	**78.0%**
Total	**38.9%**	**61.1%**	**100.0%**

Table 9: Comparison of Estimates of Share of Scripts Filled by Drug Type by Channel

Abrams Derivation from 2007 Medco Data

Source: Table 5, Medco Update Paper

	Generic	Brand	**Total**
Retail	38.3%	23.8%	**62.0%**
Mail Order	19.0%	19.0%	**38.0%**
Total	**57.3%**	**42.7%**	**100.0%**

Abrams Derivation from FTC 2002-3 Data
Source: Exhibit 3, Misalignment paper - reference 12 below

	Generic	Brand	**Total**
Retail	26.8%	34.2%	**61.0%**
Mail Order	13.7%	25.3%	**39.0%**
Total	**40.5%**	**59.5%**	**100.0%**

Table 12: Comparison of Estimates of Unit (30 count) Margins by Drug Type by Channel

2008 Abrams Update of Medco Business Model (2007 Data)

		Unit Margin (30 count) All Sources	
	Abrams Update	Generic	Brand
Retail	Table 6	$0.26	$1.97
Mail Order	Table 6	$7.67	$3.66

2005 FTC Study of Big 3 PBMs (2002-3 Data)

		Unit Margin (30 count) All Sources	
	FTC Study	Generic	Brand
Retail	Table IV-3 p 72	($0.01)	$2.01
Mail Order	Table IV-5 p. 73	$8.82	$4.75

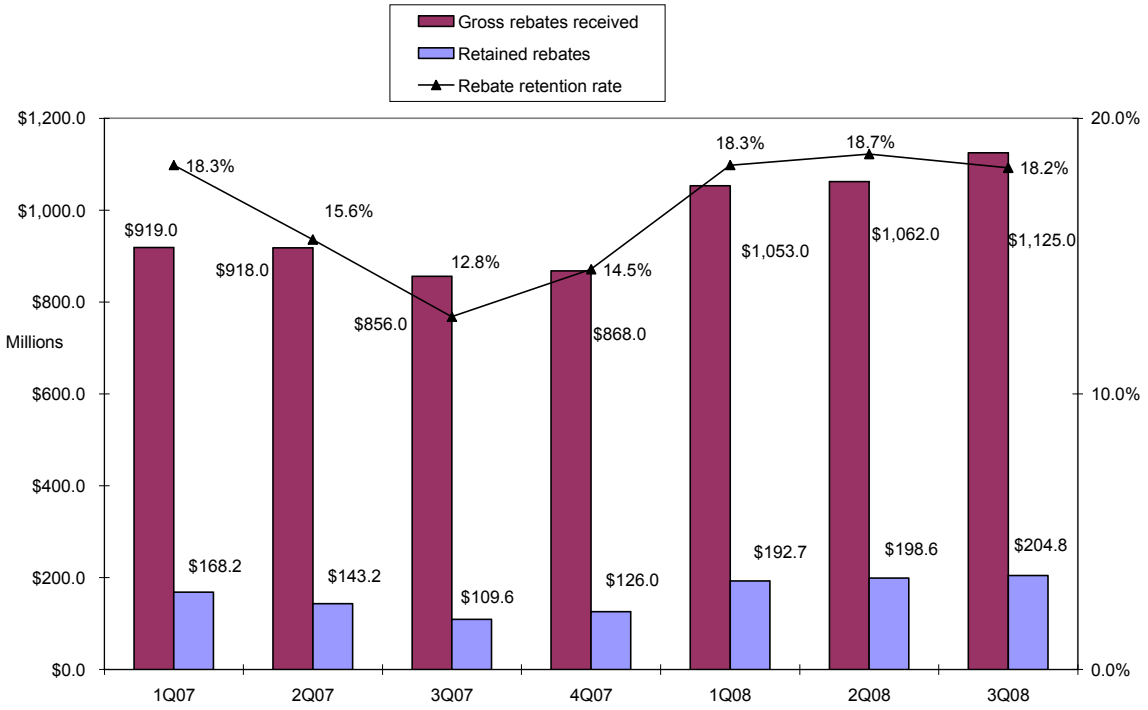
2008 Abrams Update of Medco Business Model (2007 Data)

		Unit Margin (30 count) All Sources		
	Abrams Update	Generic	Rebatable Brand	Other Brand
Retail	Table 5, 10,11	$0.26	$6.67	$0.79
Mail Order	Table 5, 10, 11	$7.67	$8.36	$2.48

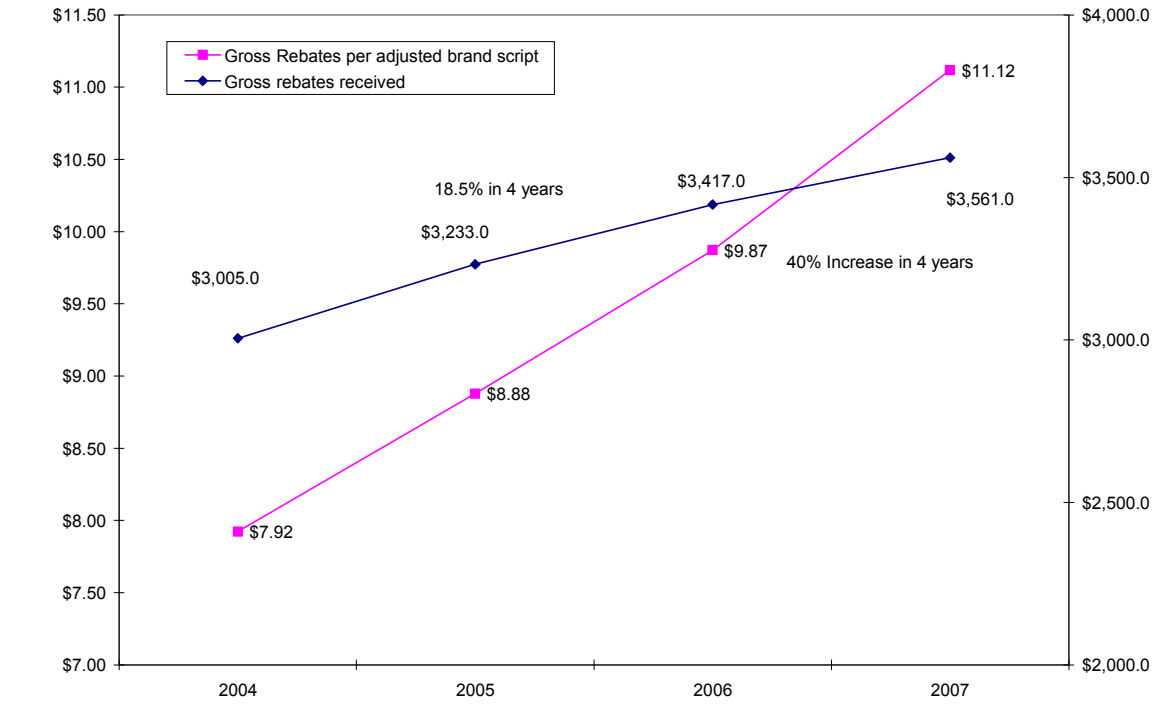
Abrams Derivation from 2005 FTC Study of Big 3 PBMs (2002-3 Data)

		Unit Margin (30 count) All Sources		
	Abrams Study of FTC	Generic	Rebatable Brand	Other Brand
Retail	Exhibit 2	($0.01)	$8.47	$0.39
Mail Order	Exhibit 2	$8.82	$11.21	$3.13

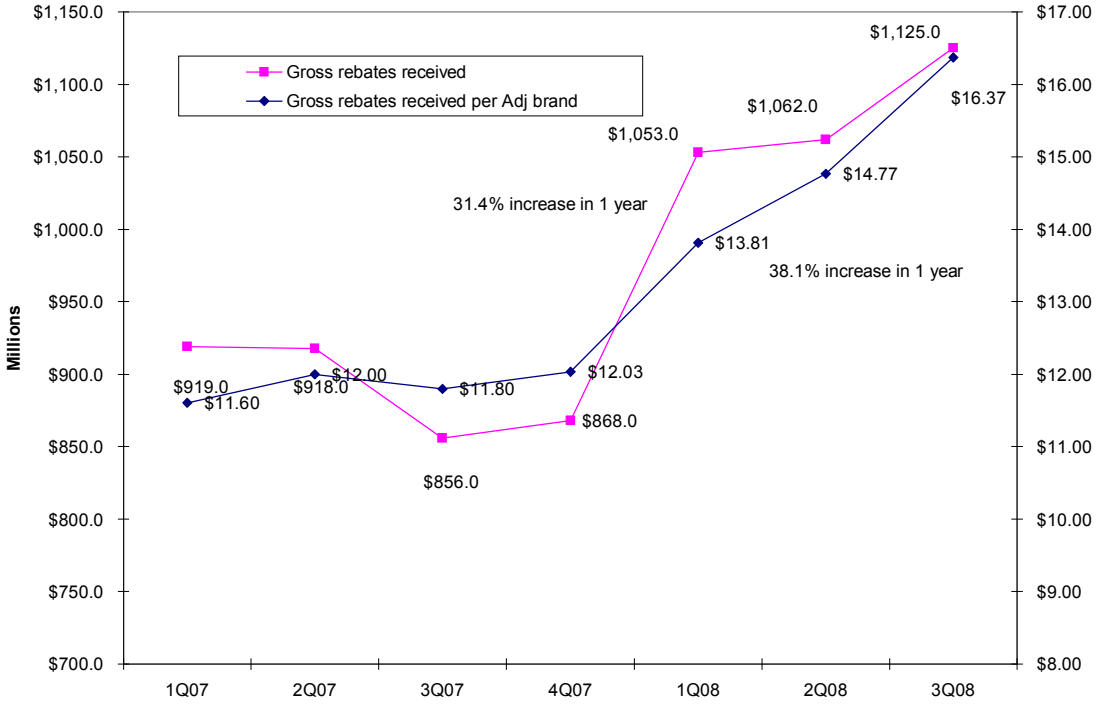
Medco Trend in Rebates Received and Retained: 2007-2008



Medco Trend in Gross Rebates Received Per Adj Brand Script



Medco Trend In Gross Rebates Received Per Adj Brand Script: 2007-2008



Quantifying Medco's Business Model: An Update

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Introduction

The purpose of this paper is to make transparent what Medco does not. Transparency in a company's business model is good for economic welfare (i.e., competition) but not necessarily good for a company's stock performance. This paper is written from the perspective of economic welfare, not from the perspective of investing. In the six years we have been writing about the Big 3 PBM lack of transparency, conflict of interest, "sins of omission", and tacit collusion to hold up generic prices in the drug supply chain, the group's stock performance has far exceeded that of any other group involved in healthcare cost containment. What disturbs us about the Big 3 PBM business model is precisely what Wall Street loves.

With a few exceptions, all of the data used in our update comes from 10-K and 10-Q financials statements that Medco has filed with the Securities and Exchange Commission (SEC). Some of the revelations are derived from simple arithmetic – e.g., calculation of trends in per script brand rebates. Most of the revelations are based on algebraic derivations where reasonable assumptions are inserted for unknowns – e.g., the derivation of the mail order pharmacy margin based on a reasonable assumption for the retail spread margin.

The paper is an update to two sets of papers written in 2005. One set of papers focused specifically on disaggregating Medco's reported gross profits by source. It relied on 10-Q data from 3Q2004 and 2Q2005.[1] The other set of papers critically evaluated a 2005 study by the Federal Trade Commission (FTC) that concluded there was no conflict of interest in the Big 3 PBM business model.[2] Our critical evaluation was based on a review of per scrip margins from all sources calculated by the

FTC. The raw data came from confidential information supplied by Medco, Express Scripts, Caremark, and other PBMs for the 2002-3 period.

The first section of this paper recasts Medco data for FY2007 without any further disaggregation in order to quantify the importance of opaque transactional margins relative to transparent management fees. Our real disaggregation work begins with a split of pharmacy transactional margins into four sources: retail reimbursement margin ("the spread"), captive mail order pharmacy margin ("fill margins"), retained rebates, and claims and data fees. The first three sources can be aggregated to become what we call a "transaction margin". We devote a lot of attention in this paper to disaggregating and analyzing transactions margins by drug type and by fulfillment channel – retail or mail order.

We present a "stylized" model of mail order pharmacy financials by drug type. We couple this stylized model with our earlier disaggregation to arrive at a matrix of gross profits by source by drug type by channel. We analyze trends uncovered by this disaggregation and revisit our evaluation of Medco's claim that their business model is aligned with clients' interest in promoting generics.

Since 3Q2004, Medco has been our focus because it has been the only large independent pharmacy benefit manager (PBM) to disclose its gross rebates received from Pharma and its rebate retention rate. To this day, it is the only large PBM where the share of gross profits from retained rebates – what we first called the rebate retention rate [3]-- can be calculated with certainty.

Medco's disclosure of its rebate revenue was part of a government *qui tam* settlement in 2004. This disclosure was a factor in motivating Medco to transform rapidly its business model away from retained rebates to a dependency on mail order generic margins. This was achieved remarkably without loss in overall gross profit margins in less than two years.

Medco now touts itself as the most transparent of the Big 3 PBMs. Of course, Medco's transparency is relative…relatively good compared to Express Scripts or CVS/Caremark, but relatively poor compared to other healthcare cost containment companies.

Transactional Gross Profits versus Client Fees

In the first phase of our update, we pay special attention to quantifying the importance of gross profits from pharmacy operations relative to management fees paid by clients. In the past, we measured relative importance as a percentage of Medco's overall gross profits. Here we develop measures of importance in terms of average dollar per-member-per-year (PMPY). This facilitates quantitative comparisons with management fees typically charged for other healthcare cost containment services like medicine therapy management.[4]

Fortunately, Medco has always separated out transactional margins from management fees. For the first time in its FY2007's 10-K annual report, Medco separated out client fees from so-called "data fees" received from Pharma.[5] This separation was likely due to pressure for more transparency as many believe that "data fees" from Pharma are a surrogate for pharmaceutical rebates. As the disaggregation below indicates, "data fees" contributed only 5.2% of Medco's FY2007 gross profits, small compared to the contributions by transactional margins, but substantial compared to the 7.9% contribution by the sum of all management fees paid by clients.

Table 1 below recasts Medco's gross profits without any further disaggregation An estimate of covered lives is the only outside data required because Medco does not report this in its 10-K. [6] This recasting of Medco's FY2007 financials highlights Medco's dependency on selling prescriptions relative to collecting management fees. In 2007, Medco derived only 7.9% of its gross profits from client fees compared to 86.9% from prescription transaction gross profits. We calculate that Medco's revenue from client fees averages $6.52 PMPY. In contract, its gross profits from all pharmacy

transactions---retail spread, mail order fill margins, and retain rebates --averages seven times that, or $42.66 PMPY.

Table 1: How Medco Reports Its Revenue and Cost Model

	source	Revenue Mil $	source	Costs Mil $	Gross Profit	Margin Share	Margin
PBM Rx Transactions	10-K	$37,981	10-K	$35,839	$2,142	72.7%	5.6%
Specialty Rx Transactions	10-K	$5,981	10-K	$5,563	$417	14.2%	7.0%
Fees from Pharma	10-K	$153	10-K	$0	$153	5.2%	100.0%
Fees from Clients	10-K	$391	10-K	$158	$233	**7.9%**	59.5%
Totals- FY07	10-K	$44,506	10-K	$41,561	$2,945	100.0%	6.6%
		Mil					
Members	A.I.S.	60					
PMPY Fees from Clients		**$6.52**					
PMPY Gross Profits From Transactions		**$42.66**					

http://www.aishealth.com/MarketData/PharmBenMgmt/PBM_market01.html covered lives 2Q07
Medco Health Solutions, Form 10-K for year ending December 29, 2007, Available at http://yahoo.brand.edgar-online.com/DisplayFiling.aspx?dcn=0000950123-08-001863

Transactional Gross Profits by Source

In 2005, Medco purchased Accredo, a very large specialty pharmacy that dispenses costly biotech drugs often requiring injection or infusion. This acquisition was material both from a financial and from a financial reporting perspective. As a consequence of this acquisition, Medco now separates out specialty pharmacy financials from traditional pharmacy (and PBM) financials. This makes it possible to derive a separate estimate of specialty pharmacy margins with co-payments included as both revenue and cost of sales. Note that this margin would increase by a couple of percentage points if co-payments were netted out.

Before the Accredo acquisition, Medco split mail order pharmacy revenue, but not cost, from other PBM related financials. This was an obvious attempt to keep mail order margins a secret, but at least Medco disclosed one data point for the mail order channel. Now, with the purchase of Accredo,

Medco sees itself as two broad businesses – PBM and specialty pharmacy. It allocates only one line in its financials for the sum of mail and retail transactions, traditional brand rebates, and the combined co-payments from mail order and specialty. Medco explains the decision to stop reporting pharmacy revenue by channel of distribution in its latest 10-K: [7]

> As a result of our acquisition of Accredo in August 2005, we have two reportable segments, PBM and Specialty Pharmacy. The PBM segment involves sales of traditional prescription drugs and supplies to our clients and members, either through our network of contractually affiliated retail pharmacies or our mail-order pharmacies…. …The PBM segment is measured and managed on an integrated basis, and there is no distinct measurement that separates the performance and profitability of mail order and retail….As a result of the nature of our integrated PBM services and contracts, the chief operating decision maker views Medco's PBM operations as a single segment for purposes of making decisions about resource allocations and in assessing performance.

This failure represents a major step backward in the transparency off Medco's financial reporting. However, with a few reasonable assumptions, we are able once again to make transparent what Medco does not.

While it is possible to split out rebates with certainty, disaggregating pharmacy revenue and costs by distribution channel requires additional assumptions. The table below summaries the assumptions required to disaggregate gross profits by source:

Indent is Disaggregation	Assumptions
PBM Rx Transactions	Total disclosed in 10-K
Retail Network Reimbursements	60.2% of remainder after deducting rebates, with spread margin pegged at .5%
Captive Mail Order Pharmacy	39.8% reimbursements after deducting rebates
Rebates Remitted and Received	Total disclosed in 10-K
Member Copay - Rx	Total disclosed in 10-K
Captive Specialty Pharmacy + Co Pay	Total disclosed in 10-K
Fees From Pharma	Total disclosed in 10-K
Fees from Clients	Total disclosed in 10-K

Table 2 below presents our estimate of the distribution of Medco's revenue between mail order and retail channels. This is necessary for our full disaggregation presented in Table 3.

Table 2: Estimate of Medco's Share of Reimbursement Revenue by Channel and Drug Type

Medco Adj Rx by Channel - Source 10-K				
	Retail	Mail Order	Total	Derivation
Millions of Rx	465	284	749	
% of Total	62%	38%	100.0%	Cell 1
Medco Dispensing Rates by Type - Source 10-K				
	Retail	Mail Order		
Generic Dispensing Rate	62%	50%		Matrix 1
Brand Dispensing Rate	38%	50%		
Medco's Scripts Filled by Channel and Type				
	Retail	Mail Order	Total	
Generic	38.3%	19.0%	**57.3%**	Matrix 2 =
Brand	23.8%	19.0%	**42.7%**	Cell 1 * Matrix 1
Total	**62.0%**	**38.0%**	100.0%	
Assumed Average Reimbursement Per 30 day Rx by Channel and Type				
	Retail	Mail Order		
Generic	$ 30.00	$ 28.50		Matrix 3
Brand	$ 117.53	$ 108.13		
Weighted Average Dollar Reimbursement by Channel and Type				
	Retail	Mail Order		
Generic	$ 11.49	$ 5.41	Total	Matrix 4 =
Brand	$ 27.93	$ 20.52	$ 65.34	Matrix 2* Matrix 3
Share of Reimbursement Revenue by Channel and Type				
	Retail	Mail Order	**Total**	
Generic	17.6%	8.3%	25.9%	Matrix 5=
Brand	42.7%	31.4%	74.1%	Matrix 4 as a %
Total	**60.3%**	**39.7%**	100.0%	

Based on the aggregated data in Table 1 and the assumptions above, we can derive an estimate of Medco's transactional gross profits by source below in Table 3. Key findings are as follows:

In 3Q2004, we estimated that mail order margins contributed 11.8% to Medco's overall gross profits with virtually no specialty pharmacy contribution. In 2007, we estimate that mail order now contributes 49.9% to overall gross profits, with an added 14.2% contribution from specialty pharmacy.

Excluding specialty pharmacy, Medco's captive mail order pharmacy contributes 59.0% of total gross profits.

In 3Q2004, Medco first disclosed that its rebate retention rate was 40.5% of gross rebates. By 2007, Medco has reduced its rebate retention rate to 15.4%.

In 3Q2004, we calculated with certainty that retained rebates contributed 71.4% of total gross profits. By 2007, the contribution of retained rebates has fallen to only 18.6% of gross profits.

For FY2007 we estimate that Medco's gross profit margin for mail order to be to be 9.0%. This is considerably higher than our 2Q2005 estimate of 4.5% for Medco's mail order operations which was also net of co-payments.

It is important to make clear that reported mail order margins cannot be compared to reported retail fill margins, which typically runs around 22%. Mail order and specialty pharmacies are considered "manufacturing" operations by accountants and their cost of sale includes ingredients as well as pharmacy labor, facilities and other indirect "manufacturing" costs. This differs from how accountants define the costs of sales of retail pharmacies, which includes only ingredients purchased for resale and inventory warehousing costs, but not retail pharmacy labor or facilities costs.

Table 3:How Medco Reports Its Revenue and Cost Model, FY2007

	cell	source	Revenue Mil $	source	Costs Mil $	Gross Profit	Margin Share	Margin
PBM Rx Transactions	a1	10-K	$ 37,981	10-K	$ 35,839	$ 2,142	72.7%	5.6%
Specialty Rx Transactions	a2	10-K	$ 5,981	10-K	$ 5,563	$ 417	14.2%	7.0%
Fees From Pharma	a3	10-K	$ 153	10-K	$ -	$ 153	5.2%	100.0%
Fees from Clients	a4	10-K	$ 391	10-K	$ 158	$ 233	**7.9%**	59.5%
Totals- FY07	a5	10-K	$ 44,506	10-K	$ 41,561	$ 2,945	100.0%	6.6%

Data Used In Derivation	**cell**	**source**	**Mil $**	
Rx Volume (not Adjusted for MO)	a6	10-K	$ 560	
Members	a8	A.I.S.	60	Highlight in
Mail Order Rx Volume (90 Day Count)	a9	10-K	94.80	
Gross Rebates Received	a10	10-K	$ 3,561	
Rebate Retention Rate	a11	10-K	15.4%	
Retail Share of Transaction Revenue	a12	estimate	60.2%	
Mail Order Share of Transaction Revenue	a13	=1-a12	39.8%	

A More Transparent View of Medco's Business Model, FY2007

			Revenue		Costs	Gross Profit	Margin Share	Margin	
PBM Rx Transactions									
Retail Network Reimbursements	a14	=a12*(a17-a16)	$ 24,678	=.0995*a14	$ 24,555	$ 123	4.2%	0.5%	"The Spread"
Captive Mail Order Pharmacy	a15	=a13*(a17-a16)	$ 16,316	remainder	$ 14,845	$ 1,470	49.9%	9.0%	Mail Order Margin
Rebates Remitted and Received	a16	10-K	$ (3,013)	10-K	$ (3,561)	$ 548	18.6%	15.4%	Retention Rate
PBM Rx Transactions	a17	10-K	$ 37,981	10-K	$ 35,839	$ 2,142	72.7%	5.6%	
Specialty Rx Transactions	a18	10-K	$ 5,981	10-K	$ 5,563	$ 417	14.2%	7.0%	
Fees From Pharma	a19	10-K	$ 153	10-K	$ -	$ 153	5.2%	100.0%	
Fees From Clients	a20	10-K	$ 391	10-K	$ 158	$ 233	7.9%	59.5%	
Totals- FY07		Check Sum	$ 44,506		$ 41,561	$ 2,945	100.0%	6.6%	

			Revenue	Costs	Gross Profit
Mail Order Pharmacy Per 90 Day Rx	a24	=a15/a9	**$ 172.11**	**$ 156.60**	**$ 15.51**

Our work indicates that the so-called retail reimbursement “spread” – the difference between client-to-Medco reimbursements and Medco-to-retailer reimbursements for prescriptions dispensed at retail – only contributes 4.2% of Medco’s overall gross profits. While PBMs add no value in the retail channel via fulfillment, they do provide clients with other values– reimbursement negotiation, working capital management, and a small risk of loss. While we would prefer that these value added services were captured with transparent management fees rather than opaque spread margins, nevertheless a relatively small return to PBMs for managing retail pharmacy reimbursements is justified.

Our past disaggregation work basically came down to one equation and two unknowns – mail order fill margin and retail spread margin. Total margin, running around 6 percentage points, was known, as was margins on co-payments (none), rebates, and fees. We plugged in various retail spread margins to see what the resulting mail order fill margin would be. In our disaggregation work then and now, we have fixed the spread at .5% of retail reimbursements. [8]

Robert Garis began reporting in 2003 instances of double and triple digit spreads and made a big deal of PBM deception in this area.[9] Even today, **The Wall Street Journal's** new reporter covering the PBM industry has made a big deal of retail spreads based only on anecdotal evidence.[10]

The fact of the matter is that Medco's aggregate gross profits of six or so percent is a given in a financial model. So are gross and retained rebates. What remains is a one equation model with two unknowns. We have found that whenever we plug in an **aggregate spread** over 2% in our financial model, it drives the mail order margin to unreasonable levels. Our conclusion is that **anecdotal spreads** of double and triple digits have validity, but little "weight", as in weighted average gross profit margins.

A "Stylized" Model of Mail Order Pharmacy Gross Profits by Drug Type

The purpose of this section is to present a "stylized" financial model of a large mail order pharmacy operation in order to derive estimates of unit margins for various brand and generic drug types. The model becomes "stylized" if we tie out the aggregates to our per 90 count script estimates for Medco's mail order revenue, gross profits, and margin, which were $172.11, $156.60, and $15.51, respectively.

There are several reasons for this exercise. First, we want to quantify the relative importance of mail order generics to the Big 3 PBM business model. Second, we want to refine the pharmacy financial

model to include a new drug type: a generic with single-source protection given by the Food and Drug Administration (FDA) during the first year after patent expiration. This so-called “new” generic has an average wholesale price (AWP) of a brand, due to its single-source protection, but a contracted reimbursement percentage of an “old” multiple-source generic. Simvastatin in its first year after losing its patent protection is an example of a “new” generic. The purpose here is to show how a “new” generic of a previous blockbuster brand can have such an inflated unit margin that it can create a “bubble” in aggregate pharmacy gross profits even though it might represent less that 3% of total scripts dispensed.

Ultimately, we want to produce a matrix of unit margins and a matrix of aggregate gross profits by source by drug type by channel. To achieve this, we need estimates of mail order margins derived from our stylized model coupled with Medco data-derived estimates of dollar spread margins and average retained rebates per brand script. This becomes the basis for our analysis of Medco’s claim that their business model is aligned with clients’ interest.

The table summarizes a financial model of a large mail order pharmacy operation. The details are presented in Table 4.

A "Stylized" Financial Model of Mail Order Prescription Margins by Drug Type

	New Generic (e.g. simvastatin)	Old Generic (e.g.lovastatin)	Brand (e.g. Lipitor)	Model Weighted Average	Derived Medco
Rx Volume Share	3%	47%	50%	100%	
Revenue/Rx	$123.80	$54.20	$285.84	$172.11	$172.11
Total Cost of Sale	$62.40	$31.20	$280.00	$156.57	$156.60
Gross Profit / 90 Day Rx	**$61.40**	**$23.00**	**$5.84**	**$15.54**	**$15.51**
Margin %	**49.6%**	**42.4%**	**2.0%**	**9.0%**	**9.0%**

We find it extremely useful to postulate three types of drugs dispensed, each with a distinct margin, as measured both by dollar per script and by percentage: (1) a single-source generic with a high AWP (e.g. simvastatin); (2) a multiple-source generic with a low AWP (e.g. lovastatin); and (3) a brand with a high AWP (e.g. Lipitor).

The table above and below highlight two aspects of the financials of a large mail order pharmacy operation. One is that the ingredient and prescription margins are higher for generics than brands by design. The second is that new generics have higher **dollar** margins than older generics even though they have similar ingredient and prescription **percentage** margins.

Table 4: "Stylized" Model of Mail Order Prescription Margins by Drug Type

	New Generic (e.g. simvastatin)	Old Generic (e.g.lovastatin)	Brand (e.g. Lipitor)	Weighted Average	Derived Medco
Rx Volume Share	**3%**	**47%**	**50%**	**100%**	
AWP	$ 70.00	$ 30.00	$ 117.53		
AWP * 3	$ 210.00	$ 90.00	$ 352.59		
Sell Discount	-42.0%	-42.0%	-19.5%		
Ingredient Reimbursement	$ 121.80	$ 52.20	$ 283.83	**$ 170.11**	
Add: Dispensing Fee	$ 2.00	$ 2.00	$ 2.00		
Revenue/Rx	**$ 123.80**	**$ 54.20**	**$ 285.83**	**$ 172.11**	**$ 172.11**
Buy Discount	-74.0%	-74.0%	-22.8%		
Ingredient Cost	$ 54.60	$ 23.40	$ 272.20	**$ 148.74**	
Ingredient Margin %	**32.0%**	**32.0%**	**3.3%**		
Warehousing and Delivery (263a) costs	$ 0.30	$ 0.30	$ 0.30		
Labor and Overhead Costs / Rx	**$ 7.00**	**$ 7.00**	**$ 7.00**		
Mailing Costs	$ 0.50	$ 0.50	$ 0.50		
Total Mail Fill Cost of Sale	$ 7.80	$ 7.80	$ 7.80	**$ 7.80**	
Total Mail Order Cost of Sale	$ 62.40	$ 31.20	$ 280.00	**$ 156.54**	**$ 156.60**
Gross Profit / 90 Day Rx	**$ 61.40**	**$ 23.00**	**$ 5.84**	**$ 15.57**	**$ 15.51**
Gross Profits/ 30 Day Rx	**$ 20.47**	**$ 7.67**	**$ 1.95**	**$ 5.19**	**$ 5.17**
Prescription Margin %	**49.6%**	**42.4%**	**2.0%**	**9.0%**	**9.0%**
$ Spend Share	**2.2%**	**14.8%**	**83.0%**	**100.0%**	
$ Gross Profit Share	**11.8%**	**69.4%**	**18.7%**	**100.0%**	

This is due to a flaw in the AWP reimbursement formula that compensates for ridiculously low dispensing fees with percentages, rather than fixed dollars, off AWP. This highlights our contention that the flaw in the AWP formula is not so much the basis – AWP – but the evolution over time of the use of percentages to cover below cost dispensing fees.

A better alternative would be a fixed dollar "fill and fair return fee". A fair dispensing fee would be around $9.00 which would reward Medco for being a low cost dispenser at $7.80 per mail order script. Currently, the gross profits, or return, on Medco's mail order operations covers 49.9% of remaining "SG&A" costs and operating income, while client fees covers only 5.2%, an obvious intentional cross-subsidy due to the desire to obfuscate its business model. A fair return fee around $3.00 per mail order script would greatly reduce Medco's mail return from $15.71 per script to $4.20 = $3.00+ the $1.20 difference between the fair dispensing fee of $9.00 and Medco's estimated fully burdened mail order dispensing costs of $7.80.

Under a fill and fair return fee of $12.00 = $9.00 fill and $3.00 fair return, Medco's mail order gross profits would be $381 M = $4.20 * 94.8 M scripts, a substantial reduction from the $1,470 M we estimate it now receives under AWP system of reimbursement. To make up this difference, Medco would have to increase PMPY client fees by $18.14 PMPY = ($1,470 M – $381 M) / 60 M.

As we have said, currently we estimate Medco is charging only $ 6.52 PMPY in client fees. Under a cost plus reimbursement formula, Medco would have to increase transparent member fees almost 4 times to $ 24.66 PMPY.

Medco's mail order's share of gross profits would be reduced from 49.9% to 12.9% while client fees, the transparent share of its business model if you will, would go from 5.2% to 42.2%.

The table also highlights how the loss of patent by a blockbuster brand drug like Zocor can create a material "bubble" in pharmacy gross profits as an old brand becomes a new generic, and then within a year becomes an old generic. Even though a blockbuster generic like simvastatin in its first year contributes less than 3% of prescription volume, it can contribute over 10% of a pharmacy's gross profit.

This "simvastatin bubble" passed through the financials of the Big 3 PBMs and the large drugstore chains for about a year beginning in June of 2006 when Zocor lost patent protection and Teva had an exclusive to market the generic equivalent, simvastatin. The passing of an AWP-induced "simvastatin bubble" contributed to Walgreen's "hiccup" when it reported quarterly earnings (June-August 2007) that failed to exceed those of the prior year for the first time in a decade. On the day of this announcement, Walgreen's stock plummeted more than 15%, its largest single-day decrease in roughly twenty years. [11]

Transactional Gross Profits by Source by Drug Type by Channel

In Table 3 above, we disaggregated Medco's reported $2,142 Million in gross profits from traditional PBM transactions by source: (1) reimbursement spread margin of $123 Million; (2) mail order pharmacy fill margin of $1,470 Million; and (3) retained rebates - $548 Million. Now we further disaggregate these source margins by drug type and by channel. For each of the 3 sources, we multiply a matrix of unit margins by drug type and channel with a matrix of script volume by drug type and channel.

Table 5 below presents our derivation of Medco's prescriptions filled by drug type and channel:

Table 5: Derivation of Medco's FY2007 Scripts Filled by Type and Channel
Source: Medco 10-K
Medco Adjusted (30 day count) by Channel - Millions

	Retail	Mail Order	Total	**Derivation**
Millions of Rx	465	284	749	Cell 1
% of Total	62%	38%	100.0%	Cell 2

Medco Dispensing Rates by Drug Type

	Retail	Mail Order	
Generic Dispensing Rate	62%	50%	Matrix 1
Brand Dispensing Rate	38%	50%	

Medco Scripts Filled by Drug Type by Channel - %

	Retail	Mail Order	Total	
Generic	38.3%	19.0%	**57.3%**	Matrix 2
Brand	23.8%	19.0%	**42.7%**	=Cell 2* Matrix 1
Total	**62.0%**	**38.0%**	**100.0%**	

Medco's Scripts Filled by Drug Type by Channel - Millions

	Retail	Mail Order	Total	
New Generic	9	4	13	Matrix 3
Old Generic	278	138	416	=Cell 1* Matrix 2
Brand	178	142	320	with new generics
Total	**465**	**284**	749	= 3% of generics

Next we derive a simple average spread margin by dividing our estimated total spread margin of $123 Million by the 465 Million figure for total number of retail scripts dispensed by Medco's retail network in FY07. The average comes to $ .26 per script. We assume simply that the average spread margin is the same for generics as for brands.

We also derive a simple average of retained rebates per script by dividing Medco's reported aggregate retained rebates of $548 Million by figure for adjusted brand scripts across all channels of 320 Million. The 30 count script average equals $1.71.

The final data required for this disaggregation are estimates of mail order fill margins by drug type. We use unit margins derived from our stylized financial model presented in Table 4. Now we are ready to cross multiply Medco's prescription numbers with unit margins by source by drug type by channel summarized in Table 6 below:

The full blown disaggregation is presented in Table 7. **The key result is that we estimate that Medco now derives 54.8% of its transactional gross profits from generics. Furthermore, its captive mail order operation generates 79.7% of transactional gross profits while the retail channel contributes 20.3%.**

Table 6: Estimates of Unit (30 count) Margins by Source by Drug Type by Channel

Spread	Abrams Update	Table 3	123	Million $
Retail Adj Scripts	Abrams Update	Table 5	465	Million
Spread / Adj Retail Rx		divide	$0.26	
Retained Rebates	Abrams Update	Table 3	548	Million $
Brand Adj Scripts	Abrams Update	Table 5	320	Million $
Rebate / Adj Brand Rx		divide	$1.71	

Channel	Source	Drug Type		
		New Generic	Old Generic	Brand
Retail	Spread Margin	$0.26	$0.26	$0.26
Retail	Mail Order Rx Margin			
Retail	Retained Rebates			$1.71
Mail Order	Spread Margin			
Mail Order	Mail Order Rx Margin	$20.47	$7.67	$1.95
Mail Order	Retained Rebates			$1.71

Estimates of Unit (30 count) Margins by Drug Type by Channel

		New Generic	Old Generic	Brand
Retail	All Sources	$0.26	$0.26	$1.97
Mail Order	All Sources	$20.47	$7.67	$3.66

Table 7: Estimate of Medco's FY2007 Transactions Margin by Source by Drug Type and Channel

Medco's Scripts Filled by Channel and Type - %

	Retail	Mail Order	Total
Generic	38.3%	19.0%	**57.3%**
Brand	23.8%	19.0%	**42.7%**
Total	**62.0%**	**38.0%**	**100.0%**

Medco's Scripts Filled by Channel and Type - #

	Retail	Mail Order	Total	
New Generic	9	4	13	
Old Generic	278	138	416	
Brand	178	142	320	with new generics
Total	**465**	**284**	749	= 3% of generics

Mail Order Fill Margin - Millions

	Retail	Mail Order	Total
New Generic	$ -	$ 87	$ 87
Old Generic	$ -	$ 1,058	$ 1,058
Brand	$ -	$ 277	$ 277
Total	$ -	$ 1,335	$ 1,335

Mail Order Fill Margin Per Script

	Retail	Mail Order
New Generic	$ -	$ 20.47
Old Generic	$ -	$ 7.67
Brand	$ -	$ 1.95

Retail Spread - Millions

	Retail	Mail Order	Total
New Generic	$ 2	$ -	$ 2
Old Generic	$ 72	$ -	$ 72
Brand	$ 46	$ -	$ 46
Total	$ 121	$ -	$ 121

Retail Spread Margin Per Script

	Retail	Mail Order
New Generic	$ 0.26	$ -
Old Generic	$ 0.26	$ -
Brand	$ 0.26	$ -

Retained Rebate - Millions

	Retail	Mail Order	Total
Generic	$ -	$ -	$ -
Generic	$ -	$ -	$ -
Brand	$ 305	$ 243	$ 548
Total	$ 305	$ 243	$ 548

Retained Rebate Per Script

	Retail	Mail Order
New Generic	$ -	$ -
Old Generic		
Brand	$ 1.71	$ 1.71

Estimated Total Margin - Millions

	Retail	Mail Order	Total
New Generic	$ 2	$ 87	$ 90
Old Generic	$ 72	$ 1,058	$ 1,130
Brand	$ 351	$ 520	$ 871
Estimated Total	$ 425	$ 1,666	$ 2,091
Actual FY2007 as reported on 10-K			**$ 2,142**

Total Margin Per Script

	Retail	Mail Order
New Generic	$ 0.26	$ 20.47
Old Generic	$ 0.26	$ 7.67
Brand	$ 1.97	$ 3.66

Estimated Total Margin - % Share

	Retail	Mail Order	Total
New Generic	0.1%	4.2%	4.3%
Old Generic	3.5%	50.6%	54.1%
Brand	16.8%	24.9%	41.7%
Estimated Total	20.3%	79.7%	100.0%

Alignment of Interest

Medco has touted its business model as being aligned with the interests of plan sponsors, who obviously prefer that its members use cheaper, therapeutically equivalent, generics instead of more costly brands.

Previously, we analyzed Medco's alignment claim by recasting 2002-3 data gathered by the FTC for their study of PBM conflict of interest. [12] By combining FTC estimates of unit margins by drug type and channel with our estimates of script share by drug type and channel, we found that only 38.9% of gross profits of large independent PBMs were derived from generics.

Our update presented above now finds that Medco generates 58.4% of gross profits from generics. A comparison of the two studies is presented in Table 8 below. Based on these new results, we would reverse our assessment and say that Medco's business model now is aligned with clients.

Table 8: Comparison of Estimates of Share of Aggregate Transactional Gross Profit by Drug Type by Channel

Total Margin by Drug Type and Channel - %
Abrams Derivation from 2007 Medco Update
Source: Table 7, Medco Update Paper

	Generic	Brand	**Total**
Retail	3.6%	16.8%	**20.4%**
Mail Order	54.8%	24.9%	**79.7%**
Total	**58.4%**	**41.7%**	**100.1%**

Total Margin by Drug Type and Channel - %
Abrams Derivation from FTC 2002-3 Study
Source: Exhibit 3, Misalignment paper - reference 12 below

	Generic	Brand	**Total**
Retail	-0.1%	22.1%	**22.0%**
Mail Order	39.0%	39.0%	**78.0%**
Total	**38.9%**	**61.1%**	**100.0%**

What is driving the upward trend in generics' share of gross profits? While unit margins on mail order generics has improved, so too has unit margins on brands in the form of retained rebates as detailed later in this paper. So, it is not clear to us that there has been a shift in relative unit margins toward mail order generics.

We present in Table 9 a comparison of the share of script volume by drug type and channel. The two sets of data are our 2007 update presented in Table 5 and the 2002-3 FTC data. It suggests that the rising trend in generics' share of gross profits in the PBM business model is being driven by the generic utilization rate and not any significant shift to mail order.

Table 9: Comparison of Estimates of Share of Scripts Filled by Drug Type by Channel

Abrams Derivation from 2007 Medco Data
Source: Table 5, Medco Update Paper

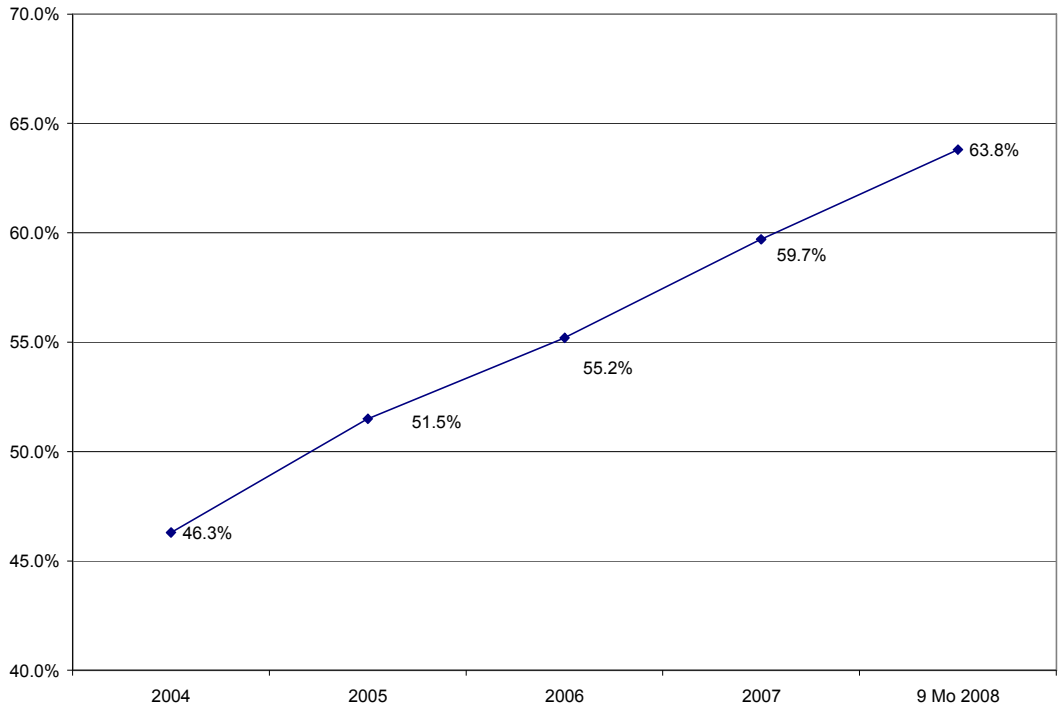
	Generic	Brand	**Total**
Retail	38.3%	23.8%	**62.0%**
Mail Order	19.0%	19.0%	**38.0%**
Total	**57.3%**	**42.7%**	**100.0%**

Abrams Derivation from FTC 2002-3 Data
Source: Exhibit 3, Misalignment paper - reference 12 below

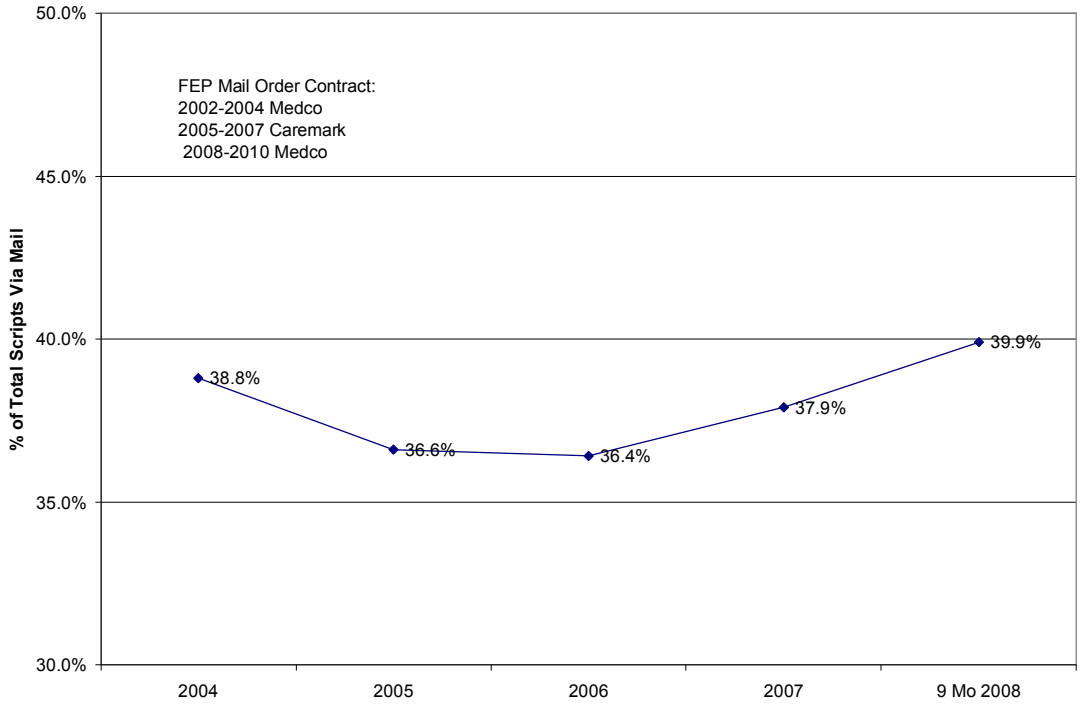
	Generic	Brand	**Total**
Retail	26.8%	34.2%	**61.0%**
Mail Order	13.7%	25.3%	**39.0%**
Total	**40.5%**	**59.5%**	**100.0%**

We can confirm this by looking at Medco's trends in generic dispensing rate and the so-called "mail order penetration rate" – the share of total adjusted (30 day count) scripts filled by the mail order channel. The graph below confirms that Medco's overall generic dispensing rate has increased dramatically from 46.3% to 63.8%. We tend to believe that much of this is due to a multi-year bubble in patent expirations of blockbuster drugs, which is beyond Medco's control, rather than the result of discretionary choices made by Medco to promote therapeutically equivalent generics. This relative growth in generic volume can be "supercharged" when it is coupled with a simultaneous shift in the mail order penetration rate. However, the second graph below indicates that this was not the case.

Medco Trend in Generic Dispensing Rate



Medco Trend in Mail Order Penetration



Medco has always touted its captive mail order operation as a cost-effective alternative to retail fulfillment. While Medco has a higher mail order penetration rate that its two rivals, Express Scripts and CVS Caremark, nevertheless Medco has failed to achieve any consistent upward trend in mail order as evidenced in the graph above. The biggest variable has been Medco's periodic success and failure to win the mail order portion of the Federal Employee Health Benefit Plan (FEP), which accounts for approximately 34 million scripts and can cause a 4 percentage point swing in the mail order penetration rate.

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In 2005, there were headline-grabbing accounts of clashes between Medco and Walgreen over Medco's practice of mandatory mail order for certain prescriptions ordered by members of General Motors' pharmacy benefit plan in Michigan. Since then, Medco has backed off from this controversial rule. Medco does not seem to promote mail order aggressively through steep co-payment differentials or advertising campaigns. Rather, Medco seems content to allow the natural trend up in generic dispensing rates to drive generics' relative share of aggregate gross profits. However, this might change in the face in an anticipated lull in the expiration of patents for blockbuster brand drugs.

Margins on "Rebatable" Brands

Based on aggregate gross profits by drug type, Medco's business model is now aligned with clients. However, as we have stated previously, there are problems using either aggregate gross profits or average unit margins to evaluate alignment claims.

First, it is a basic principle of economics that decisions are made "at the margin". Medco has discretion in plan design and compliance and makes these choices at a microeconomic level on the basis of unit margins not aggregate gross profits. Second, there is a great deal of variability in per script rebates.[13] Unit margins for brands based on averages fails to measure the true profitability of highly "rebatable" brands like Lipitor and Nexium.

We have presented in more detail elsewhere a theory of why brand rebates are variable.[14] It is based on the conceptualization of a drug formulary as a set of markets with each market being an individual therapeutic class where choices are made from a set of substitutable goods. There are three possible competitive environments for each therapeutic class: (1) competitive (at least three drugs have lost their patents and have generic equivalents); (2) monopolistic – a single patented drug with no current substitutes; and (3) oligopolistic -- a small number of patented drugs facing competition from one or two generics that are therapeutically equivalent.

Bargaining theory suggests that rebates are paid only in oligopolistic markets. Not only is there variability of rebates received at any one time, but the competitive environment in any therapeutic class changes over time as drugs gain and lose patent protection. In other words, the rebatability of a therapeutic class rises and falls as it transitions from being monopolistic to oligopolistic to competitive.

We should add that the rebatability of a therapeutic class does not really begin when a single brand drug faces competition from new, "me-too" brand drugs. As have said, it does not appear that rebates serve as "barriers to enantiomeric entry". If they did, then you would tend to find only a single brand in the coveted Tier 2 of Big 3 PBM national formularies, which is not the case.

Rebates are payments to Big 3 PBM for committing "sins of omission" – abstaining from favoring a generic that is therapeutically equivalent to a brand. The Big 3 PBMs would have you believe that they receive market share rebates for favoring one brand over another. But, the 2005 FTC study found that contracts between Pharma and the Big 3 PBMs defined the "market" in market share rebates to include therapeutically equivalent generics.

For example, it is our view that the rebatability of the statin class did not begin with the introduction of Crestor to compete with Lipitor and Zocor. Statin rebates really took off only when Zocor lost patent protection and its generic, simvastatin, became a threat to Crestor and Lipitor.

The FTC study contained empirical evidence of the variability of rebates paid by Pharma. Quoting from the report,[15]

> "Regardless of the PBM category, a majority of these payments were derived from a limited number of brand drugs. The data show that, in 2003, each of PBMs' top 25 brand drugs (in terms of total rebates received) accounted for approximately 71% of its total pharmaceutical payments, on average." (p.48)

It is possible to quantify the variability of rebates based on the above quote by assuming that 20% of brand drug prescription volume (the top 25 mentioned in the quote) are rebatable drugs like Lipitor and Nexium and that 75% (slightly higher than the above quote) of all pharmaceutical payments are paid to protect these rebatable drug.

Tables 10 and 11 below presents a disaggregation of Medco's $1.71 average into a $ 6.41 in retained rebates for rebatable drugs and $.53 for other brands drugs in monopolistic or competitive therapeutic classes. Note that the above estimates are for retained rebates and that Medco's rebate retention rebate in 2007 was 15.4%. By dividing the above figures by 15.4%, we arrive at estimates for gross rebates paid per 30 count script by Pharma of $41.65 and $ 3.41 for rebatable and other brand drugs, respectively.

In Table 12, we revisit our estimates of average unit margins from all sources – spread, fill, and retained rebates -- to see whether a mail order generic still has a higher total unit margin than a rebatable brand drug. We compare our 2007 data with our recasting of 2002-3 data presented in the FTC study.

If evaluations of the alignment claim were based on broad margin averages as presented in Table 6, then mail order generics would be the most profitable choice "at the margin" for Medco.

However, the real choice is between rebatable brands like Lipitor and Nexium and therapeutically equivalent old generics like simvastatin and omeprazole, respectively. Table 12 shows that the total margin – transaction plus retained rebate - on a rebatable mail order brand is $8.36. This is higher than the $7.67 margin for an old mail order generic, but still far less than the outrageous $20.47

margin for a new single-source generic like simvastatin during its first year after loss of patent protection.

Medco's business model still isn't aligned with interests of clients when it comes to promoting the substitution of therapeutically equivalent generics for high priced, but highly rebatable, brands Lipitor or Nexium.

Table 10 :Derivation of Rebates Retained Per Rebatable Brand (30 Count)

	Source	**Rebatable Brand**	Other Brand	All Brand
Rx Share	assume	**20%**	80%	100%
Retained / Adj Rx	Table 3 / 320	**$ 6.41**	$ 0.53	**$ 1.71**
Retained $	Table 3	$ 410	$ 137	$ 547
Share of Retained $		75.0%	25.0%	100.0%
Received	=/ 15.4%	**$ 41.65**	$ 3.47	$ 11.10
Rebate Share	FTC Study	**75%**	25%	

Average rebates are calculated so that retained rebate $ share is 75/25
and weighted average equal $1.71

Table 11: Derivation of Total Unit (30 Count) Margins of Rebatable Brands

Retail	Source	**Rebatable Brand**	Other Brand
Spread	**Table 4**	$ 0.26	$ 0.26
Rebate	**Table 8**	$ 6.41	$ 0.53
Total Unit Margin		$ 6.67	$ 0.79
Mail Order			
Fill	**Table 4**	$ 1.95	$ 1.95
Rebate	**Table 8**	$ 6.41	$ 0.53
Total Unit Margin		$ 8.36	$ 2.48

Table 12: Comparison of Estimates of Unit (30 count) Margins by Drug Type by Channel

2008 Abrams Update of Medco Business Model (2007 Data)

		Unit Margin (30 count) All Sources	
	Abrams Update	Generic	Brand
Retail	Table 6	$0.26	$1.97
Mail Order	Table 6	$7.67	$3.66

2005 FTC Study of Big 3 PBMs (2002-3 Data)

		Unit Margin (30 count) All Sources	
	FTC Study	Generic	Brand
Retail	Table IV-3 p 72	($0.01)	$2.01
Mail Order	Table IV-5 p. 73	$8.82	$4.75

2008 Abrams Update of Medco Business Model (2007 Data)

		Unit Margin (30 count) All Sources		
	Abrams Update	Generic	Rebatable Brand	Other Brand
Retail	Table 5, 10,11	$0.26	$6.67	$0.79
Mail Order	Table 5, 10, 11	$7.67	$8.36	$2.48

Abrams Derivation from 2005 FTC Study of Big 3 PBMs (2002-3 Data)

		Unit Margin (30 count) All Sources		
	Abrams Study of FTC	Generic	Rebatable Brand	Other Brand
Retail	Exhibit 2	($0.01)	$8.47	$0.39
Mail Order	Exhibit 2	$8.82	$11.21	$3.13

Medco Trend in Rebates Received and Retained

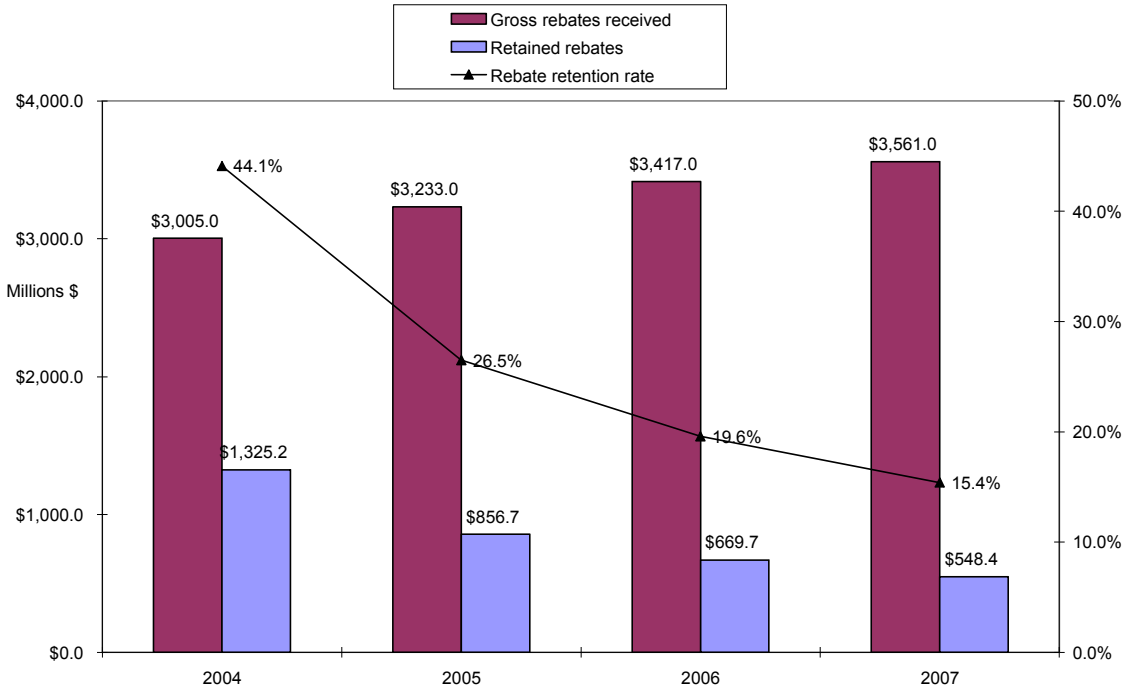
Updating Medco's business model affords us an opportunity to analyze trends in gross rebates received over time. In 2005, we wrote a paper "Tale of Two PBMs" that tried to explain cross-sectional differences in gross rebates received between Medco and Express Scripts.[16] In this section, we analyze time series trends in gross rebates received, the rebate retention rate, and retained rebates' share of transactional gross profits. In the next section, we reveal and analyze Medco's upward trend in average rebate per brand script.

The first two graphs below present Medco's trends in gross rebates received, its rebate retention rate, and rebates retained. There are several aspects of these trends of note. First, received rebate

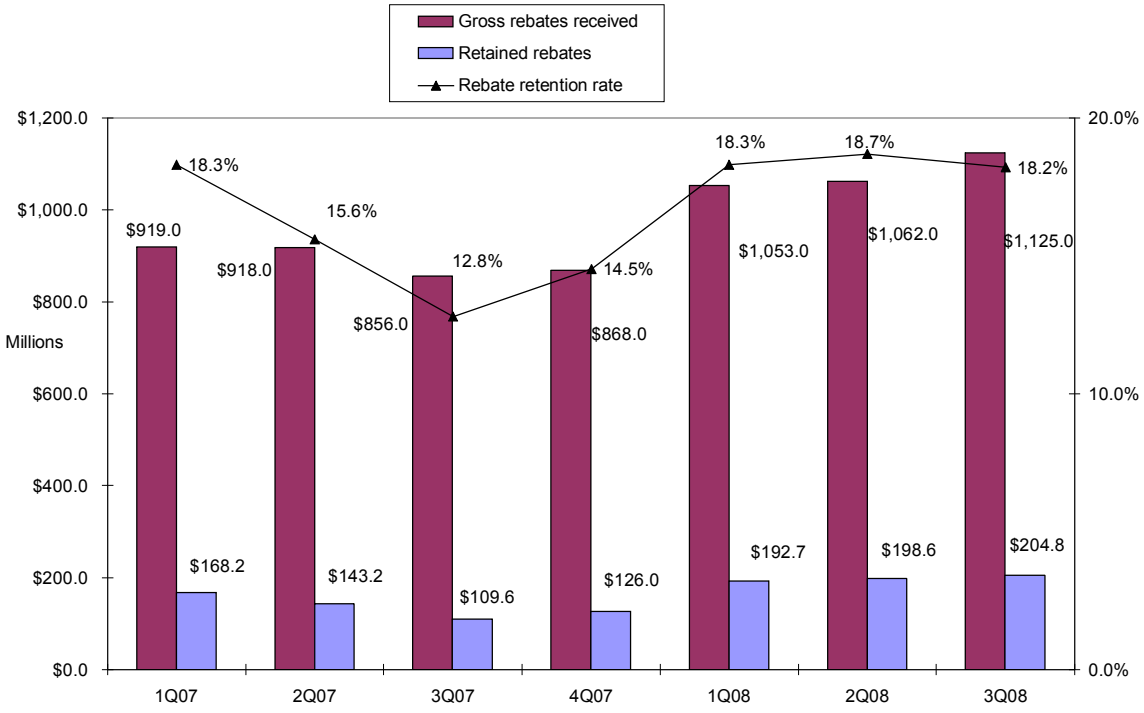
dollars have continued to rise even as Medco's rebate retention rate has declined. It appears that a declining rebate retention rate has not lessened Medco's desire to bargain hard on behalf of clients.

Second, starting in 1Q2008, there has been a discontinuous ratchet up in gross rebates received and a dramatic reversal in the downward trend in rebate retention rate.

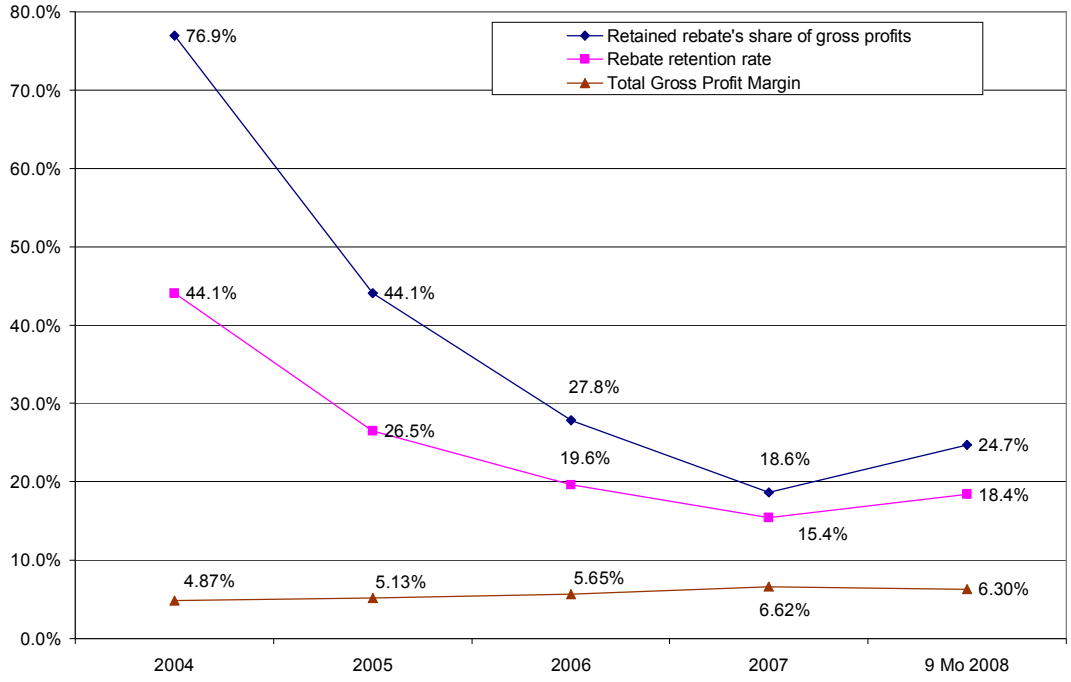
Medco Trend in Rebates Received and Retained



Medco Trend in Rebates Received and Retained: 2007-2008



Medco Trend in Rebate Retention Rate and Share of Gross Profits



The combination of increasing rebates received and retained promises to have a significant effect on Medco's FY08 distribution of transactional gross profits by source. The table below estimates that Medco will benefit in FY08 by a 49.8% increase in retained rebates. This increase represents 18.3 % of Medco's estimated prior year gross profits from its captive mail order operation.

Medco's FY2008 Shift Back Toward Retained Rebates

Item	Derivation	Source	Millions	% Change
Retained Rebates - FY07	a1	Table 3	$ 548.0	
Retained Rebates - 9 Mo 2008	a2	10-K	$ 596.0	
Retained Rebates FY08 extrapolated	a3'=a2*(4/3)		$ 820.8	
Growth in Retained Rebate	a4		$ 272.8	49.8%
Mail Order Gross Profits - FY07	a5	Table 3	$ 1,488.0	
FY08 Growth in Retained Rebates as a % of FY07 Mail Order Gross Profits	=a4 / a5		18.3%	

The ratchet up in gross rebates at the start of 2008 was likely due to a re-negotiation of rebate contracts between Medco and Pharma. However, we do not believe that the ratchet up in the rebate retention rate was also the result of a re-negotiation of contracts between Medco and its clients.

Rather, the rise in the rebate retention rate was likely a residual event of client contracts specifying fixed dollar rebates remitted coupled with rising gross rebates received for highly rebatable brands like Lipitor and Nexium. Graphs below confirm a dramatic increase in gross rebates received per adjusted brand script starting in 2008. Still, Medco must have known that re-negotiated contracts with Pharma would result indirectly in a ratchet up in the rebate retention rate. We believe that Medco intended for this to occur in response to an anticipated lull in the upward trend in the generic dispensing rate over the next year or two.

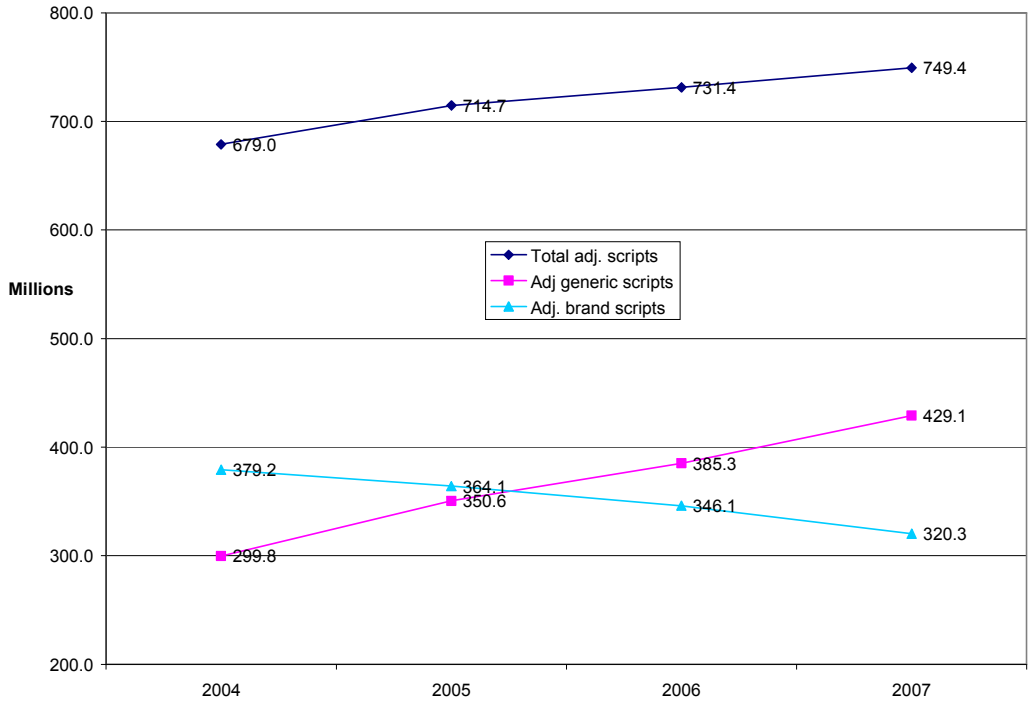
Medco's return to retained rebates is a likely response to mounting pressure on mail order generic margins since Wal-Mart first announced it would offer generic prescriptions for $4.00 in November of 2006. Because of the Wal-Mart announcement, there is also pressure now on retailers like Walgreen to accept lower reimbursement for generics. Unlike Medco, Walgreen does not seem to be able to offset pressure on generic margins easily with increased margins on its front store business. Medco's ability to adjust its rebate retention rate without any apparent re-negotiation of client contracts is proof of the resiliency of its business model relative to the "bricks and mortar" business model of chain drugstores like Walgreen.

Medco Trend in Average Rebates Received Per Brand Script

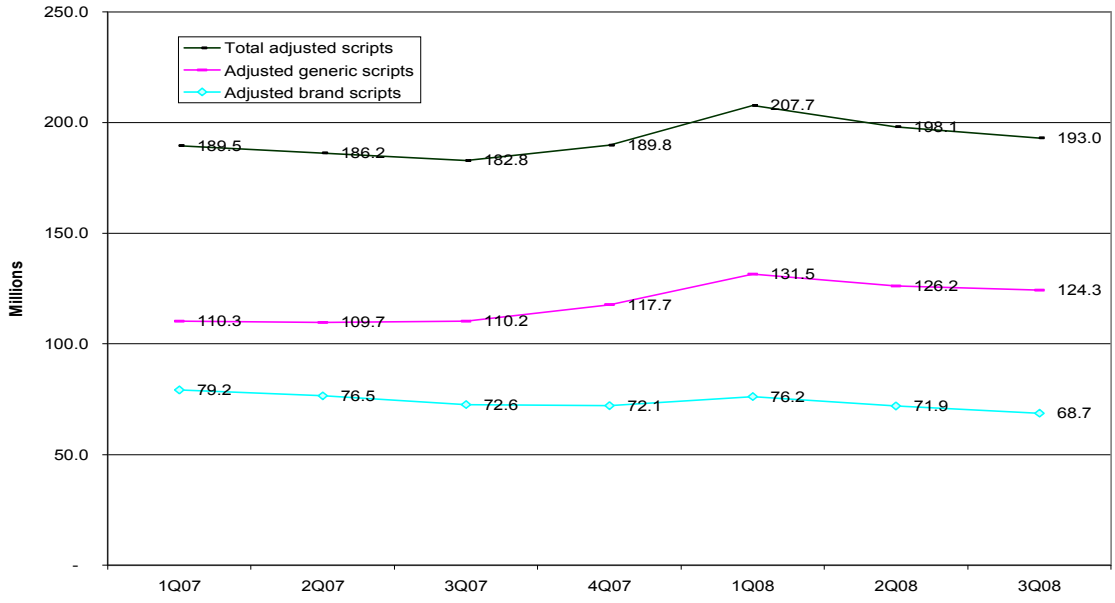
The purpose of this section is to make transparent what Medco does not – a rising trend in per script brand rebates. While Medco is the only Big 3 PBM to disclose fully gross rebates received and total adjusted brand scripts, it fails to carry out the next step by dividing the two to yield a figure for average rebates received per script.

Between 2004 and 2007, the graphs below show that there has been a significant trend up in gross rebates received per adjusted brand script. This upward trend has accelerated in 2008. Gross rebates only show a modest rise because the upward trend in per scrip rebates has been offset by a continuing downward trend in total brand scripts managed. The downward trend in total brand scripts managed is due the shift toward generics, as measured by the generic dispensing rate, rather than any decline in the number of scripts managed overall, which has been rising only slightly.

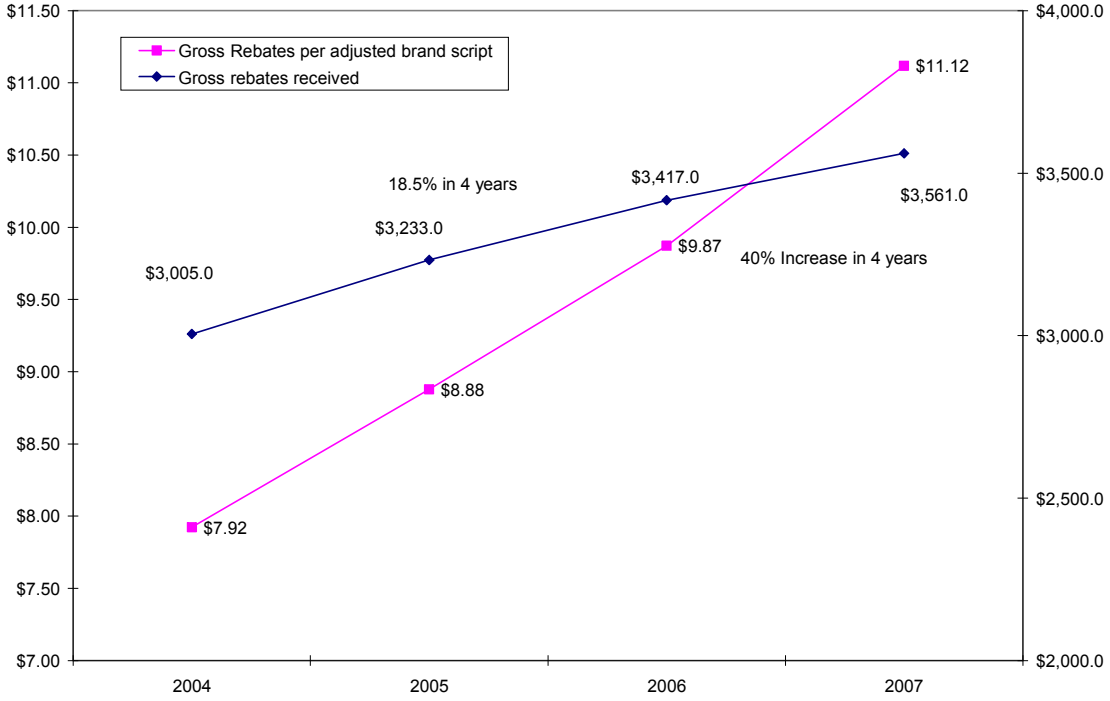
Medco Trend in Adj. Scripts Managed



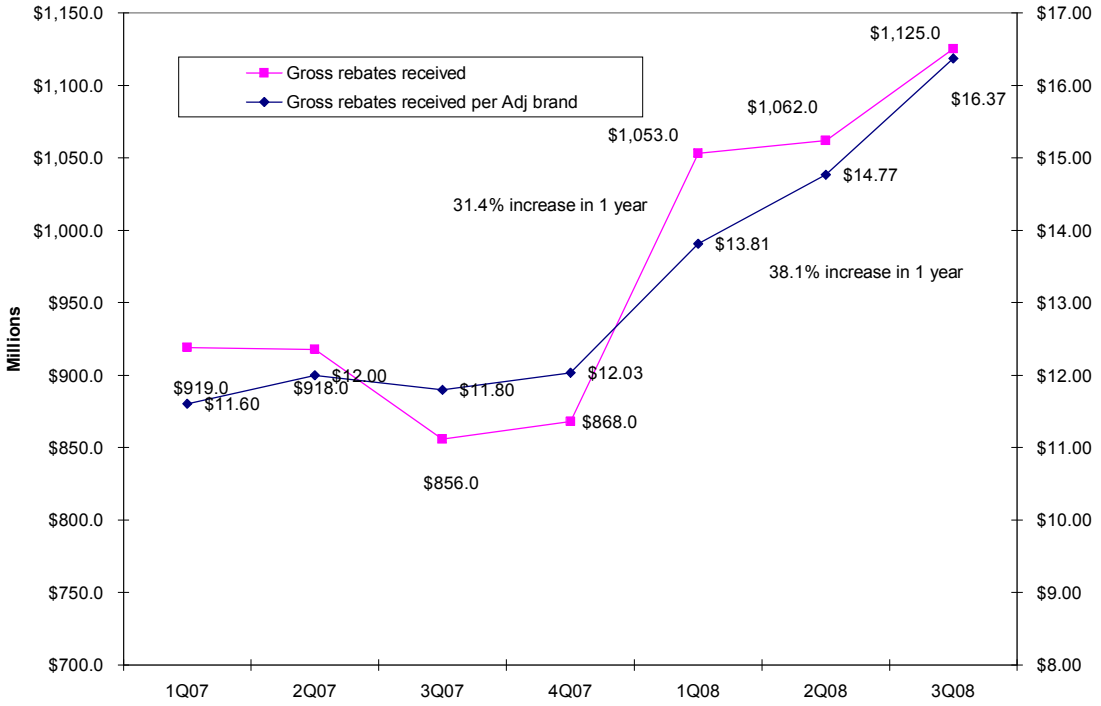
Medco Trend in Adjusted Scripts Managed: 2007-2008



Medco Trend in Gross Rebates Received Per Adj Brand Script



Medco Trend In Gross Rebates Received Per Adj Brand Script: 2007-2008



The explanation for the upward trend in rebates received per brand script is based on our view of rebates as a payment by Pharma for protecting blockbuster rebatable brands from competition by generics that are therapeutically equivalent. This protection mostly takes the form of abstaining from therapeutic interchange, what we have called “sins of omission”, so that other forms of competition, like physician detailing and direct-to-consumer advertising, occur unimpeded. [17]

Earlier, we cited statistics from an FTC study of the Big 3 PBMs in 2002-3 that found that 71% of total rebate dollars came from a small portion of brand drugs. We presented a theory suggesting that these highly rebatable drugs were blockbuster brand drugs facing competition from cheap, therapeutically equivalent, multi-sourced generics.

It follows from this theory of rebates that trends in gross rebates received follow the ebb and flow of generic, but not me-too brand, competition facing blockbuster brand drugs. For example, we believe that the rebates paid by Pfizer to protect Lipitor really kicked when Zocor lost patent protection, not when Crestor came on the market. Basically, the growth and decline in rebates paid on behalf of a blockbuster drug mirrors the transition of a therapeutic class from monopolistic (no rebates) to oligopolistic (high rebates) to competitive (low rebates). This modulation of the rebate curve over the life of a brand drug is increased when the drug is a blockbuster.

We believe that there are 3 therapeutic classes – statins, proton pump inhibitors, and non-barbiturate sleep-aids – that currently attract a substantial portion of gross rebates paid by Pharma. The list of highly rebatable brands in these 3 therapeutic classes include (1) the statins Lipitor and Crestor facing competition from simvastatin; (2) the proton pump inhibitors Nexium and Prevacid facing competition from omeprazole and OTC Prilosec; and (3) the sleep aids Ambien CR, Lunesta, and Rozerem facing competition from zolpidem.

There are other “ageing” therapeutic classes that may have once garnered substantial rebates but now are composed mostly of generic drugs. The therapeutic classes that have declined in rebatability include ACE inhibitors, beta blockers, and calcium blockers.

Note that we have excluded anti-depressant, anti-psychotic, and anti-convulsant therapeutic classes from our list of highly rebatable therapeutic classes. Such classes look highly rebatable in that they contain blockbuster brands such as Efffexor XR, Cimbalta, Welburtin XL, Seroquel, Risperdal, Abilify, and Zyprexa, and that they contain generics with similar molecular structures. But, the effect of many drugs on the central nervous system are so patient-specific that it is difficult to make any generalizations about therapeutic equivalency, even when the only difference between the brand and the generic is “extended release”.

PBMs are extremely reluctant to suggest switches in these therapeutic classes. And, the core of Big 3 PBM rebate bargaining power is the viable threat, but not necessarily the execution, to promote a therapeutically equivalent generic as a substitute for a blockbuster brand.

Notes:

(1) LW Abrams, “Quantifying Medco’s Business Model,“ April 2005. Available at http://www.nu-retail.com/quantifying_Medco_business_model.pdf and LW Abrams, “Medco’s Transition to a Transparent Business Model,” September 2005. Available at http://www.nu-retail.com/medco_transition.pdf

(2) LW Abrams, “Sins of Omission: A Review of the FTC Study of PBM Conflict of Interest, October 2005. Available at http://www.nu-retail.com/pbm_sins_of_omission.pdf and LW Abrams, “Contrary to What Wall Street and the FTC Say, The PBM Business Model is Misaligned,” November 2005. Available at http://www.nu-retail.com/PBM_Alignment.pdf

(3) LW Abrams, “Estimating the Rebate-Retention Rate of Pharmacy Benefit Managers,” April 2003. Available at http://www.nu-retail.com/rrr.pdf

(4) LW Abrams, “Medco as a Business Model Imperialist, “July 2008. Available at http://www.nu-retail.com/Medco_As_Business_Model_Imperialist.pdf

(5) Securities and Exchange Commission, Medco Health Solutions, Inc, 10-K for the Year Ending December 31, 2007 Available at http://www.edgar-online.com/bin/cobrand/?doc=A-1170650-0000950123-08-001863&nav=1&src=Yahoo

(6) Estimate of the number of lives covered by Medco http://www.aishealth.com/MarketData/PharmBenMgmt/PBM_market01.html

(7) Securities and Exchange Commission, Medco Health Solutions, Inc, 10-K for the Year Ending December 31, 2007 in section “Factors Affecting…” Available at http://www.edgar-online.com/bin/cobrand/?doc=A-1170650-0000950123-08-001863&nav=1&src=Yahoo

(8) LW Abrams, “Quantifying Medco’s Business Model, “April 2005. Available at http://www.nu-retail.com/quantifying_Medco_business_model.pdf

(9) Robert I Garis and Bartholomew E. Clark, “The Spread: Pilot Study of An Undocumented Source of Pharmacy Benefit Manager Revenue,” Available at http://www.medscape.com/viewarticle/469844

10) Sarah Rubenstein, “Medicare Moves to Limit Costs in Drug Plans,” **The Wall Street Journal**, July 22, 2008 Available at http://online.wsj.com/article/SB121668516741472029.html?mod=googlenews_wsj

(11) USA Today, “Walgreen’s Share Fall as 4Q Profits Slip,” October 1, 2007. Available at http://www.usatoday.com/money/economy/2007-10-01-4263954486_x.htm

(12) LW Abrams, “Contrary to What Wall Street and the FTC Say, The PBM Business Model is Misaligned,” November 2005. Available at http://www.nu-retail.com/PBM_Alignment.pdf

(13) LW Abrams, “Who is Best at Negotiating Pharmaceutical Rebates?”, December 2005. Available at http://www.nu-retail.com/best_at_negotiating_drug_rebates.pdf

(14) LW Abrams, “Pharmacy Benefit Managers as Bargaining Agents,” Paper presented at the Western Economic Association International, 80th Annual Conference July 6th, 2005 San Francisco Available at http://www.nu-retail.com/pbm_bargaining_paper.pdf

(15) Federal Trade Commission, “Pharmacy Benefit Managers: Ownership of Mail Order Pharmacies,” September 2005. Available at http://www.ftc.gov/os/2005/09/index.htm#6

(16) LW Abrams, “Tale of Two PBMs: Express Scripts vs. Medco,” November, 2005. Available at www.nu-retail.com/Tale_of_Two_PBMs.pdf

(17) LW Abrams, “Pharmacy Benefit Managers as Bargaining Agents,” Paper presented at the Western Economic Association International, 80th Annual Conference July 6th, 2005 San Francisco. Available at http://www.nu-retail.com/pbm_bargaining_paper.pdf

