



Commentary

# Accounting principles, revenue recognition, and the profitability of pharmacy benefit managers

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## Abstract

*Objectives:* To contrast pharmacy benefit management (PBM) companies' measured profitability by using two accounting standards. The first accounting standard is that which, under Generally Accepted Accounting Principles (GAAP), PBMs are currently allowed to employ. The second accounting standard, seemingly more congruent with the PBM business model, treats the PBM as an agent of the plan sponsor.

*Data Sources:* Financial Accounting Standards Board (FASB) Emerging Issues Task Force Issue 99-19, U.S. Securities and Exchange 10-K filings and financial accounting literature.

*Summary:* Under GAAP record keeping, the PBM industry profitability appears modest. Using currently applied GAAP, the PBM treats all payment from the plan sponsor as revenue and all payment to the pharmacy as revenue. However, the PBM functions, in practice, as an entity that passes-through money collected from one party (the sponsor) to other parties (dispensing pharmacies). Therefore, it would seem that the nature of PBM cash flows would be more accurately recorded as a pass-through entity. When the PBM is evaluated using an accounting method that recognizes the pass-through nature of its business, the PBM profit margin increases dramatically.

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*Conclusion:* Current GAAP standards make traditional financial statement analysis of PBMs unrevealing, and may hide genuinely outstanding financial performance. Investors, regulators, pharmacies, and the FASB all have an interest in moving to clarify this accounting anomaly.

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A spirited debate rages on the profitability of the pharmacy benefit management (PBM) industry. Garis and Clark<sup>1</sup> found evidence of spreads (positive differences between the amounts collected from plan sponsors and the associated amounts paid to retail pharmacies) suggesting the possibility that PBMs retain revenues in excess of those of which plan sponsors are aware. Latanich,<sup>2</sup> in response, argued that PBMs are, on average, only modestly profitable, and that the presence of positive Garis-Clark spreads is a reasonable way for them to conduct business.

This article argues that the measured profitability (the rate, not the absolute level, of profit) of PBMs depends critically on which accounting principles govern these firms. Under Generally Accepted Accounting Principles, as now applied to PBMs, their average profitability is, indeed, modest. Applying an accounting standard appropriate for cash pass-through organizations, however, would almost certainly change their measured performance.

## **1. PBMs: their revenues and expenses**

A PBM negotiates contracts with plan sponsors, usually employers, that offer prescription drug insurance coverage for defined populations, usually employees. Pharmacy benefit managements can be thought of as brokers between sponsors and dispensing pharmacies. The PBM agrees to process prescription drug claims in exchange for a payment per transaction and reimbursement for the pharmacist's drug ingredient cost and dispensing fee. The payment that the plan sponsor agrees to make for drug ingredient cost reimbursement is usually stated as "average wholesale price less a discount." Simultaneously, the PBM negotiates separate contracts with pharmacies. A Garis-Clark spread exists when the amount charged to the plan sponsor for the ingredients and as dispensing fee for a particular prescription is greater than the payment to the retail pharmacist.

The appropriate rules for accounting for PBMs' revenues and expenses are controversial. The authority that determines Generally Accepted Accounting Principles, the Financial Accounting Standards Board (FASB), has not issued a ruling specifically for PBMs. The FASB's Emerging Issues Task Force (EITF), however, has made a determination (EITF Issue 99-19) that many

PBMs apply to their recognition of revenues.<sup>3</sup> Under EITF 99-19 (“Reporting Revenue Gross as a Principal versus Net as an Agent”), entities can recognize gross revenues (all funds the entity expects to collect, including those to be passed on to another party) in cases in which they act as principals (parties acting on their own behalf, distinct from agents which act on behalf of others). This accounting practice has been particularly controversial when practiced by Web-based resellers of airline tickets and hotel rooms.<sup>4</sup>

US Securities and Exchange Commission<sup>5</sup> guidelines allow reporting of revenues on a gross basis (including, in this case, the amounts to be passed on to pharmacies) only if the PBM acts as a principal, takes title to the products involved, or has risks and rewards of ownership. Both EITF 99-19 and Staff Accounting Bulletin: No. 101 (SAB: No. 101) were written with Internet-based resellers, not PBMs, in mind. The authors can find no evidence that either the FASB or the Securities and Exchange Commission has explicitly considered the case of PBMs.

Thus, under Generally Accepted Accounting Principles, EITF 99-19, and SAB: No. 101, PBMs, if they act as principals in their transactions, can recognize the entire amount paid (or to be paid) by a plan sponsor to the PBM (transaction fee, payment for ingredients, dispensing fee, and any spread) as revenue. Similarly, the entire amount that the PBM has paid or expects to pay to retail pharmacies is recognized as expense. While waiting for collection from plan sponsors, these drug-cost revenues accumulate as substantial accounts receivable, an asset account for the PBM. While waiting for payments to pharmacies, drug-cost expenses accumulate as large accounts payable, a liability.<sup>6</sup> In this PBM-as-Principal model, the transactions of interest are between the plan sponsor and the PBM and between the PBM and the pharmacy. The relevant accounting principles view the consumer as merely collecting the drugs prescribed.

A different interpretation of the role of the PBM is that of an agent, managing cash pass-throughs. In the PBM-as-Agent model, the PBM’s role is to facilitate payment by the plan sponsor to the pharmacy for a transaction that occurred between the consumer and the pharmacy. The PBM’s revenue would be only a fee for transaction processing plus any Garis-Clark spread, and its expenses would be limited to operating expenses and expenses associated with infrastructure (depreciation, amortization, and interest expense).

## **2. The profit record**

Table 1 provides evidence on the economic performance of the 4 largest (in revenue) PBMs that were publicly traded during 2003 (Advance PCS, Express Scripts Inc., Caremark Rx Inc, and Medco Health Solutions). The authors drew these data from the firms’ filings with the US Securities and Exchange Commission (Form 10-K) for calendar year 2003 (Express

Table 1  
Selected financial data for publicly traded pharmacy benefit managers (Dollar values in thousands)

	Advance PCS 10-K for FY ended 3/31/03	Express Scripts Inc. 10-K for CY 03	Caremark Rx, Inc. 10-K for CY 03	Medco 10-K for CY 03
Net income	\$168,390	\$249,600	\$290,838	\$425,800
Revenue	\$14,110,879	\$13,294,517	\$9,067,291	\$34,264,500
Net accounts receivable (A/R)	\$1,627,931	\$1,011,154	\$669,680	\$1,394,000
Accounts payable	\$2,005,306	\$232,290	\$385,362	\$1,988,200
Assets	\$3,712,744	\$3,409,174	\$2,473,628	\$10,263,000
Equity	\$970,474	\$1,193,993	\$6,740,638	\$5,183,000
Net cash from operations	\$268,603	\$457,924	\$575,892	\$1,123,900
Profit margin	1.1933%	1.8775%	3.2076%	1.2427%
ROA	4.5355%	7.3214%	11.7575%	4.1489%
ROE	17.3513%	20.9046%	4.3147%	8.2153%
Cash flow/total assets	7.2346%	13.4321%	23.2813%	10.9510%
Total asset turnover	380.0660%	389.9630%	366.5584%	333.8644%
Asset/equity	382.5702%	285.5271%	36.6972%	198.0127%
(A/R)/total assets	43.8471%	29.6598%	27.0728%	13.5828%

Source: US Securities and Exchange Commission.

Scripts, Caremark, and Medco) or the fiscal year that ended in 2003 (Advance PCS, fiscal year ending March 31, 2003). The interested reader can access these filings through the Commission's Electronic Data Gathering and Retrieval (EDGAR) system (<http://www.sec.gov/edgar.shtml>).

These PBMs recognize revenue according to the PBM-as-Principal model. Thus, they recognize, quite appropriately, extremely large revenues and expenses that are pure pass-throughs from one contracting party to another, resulting in very large revenue, expense, accounts receivable, and accounts payable figures. There is nothing pernicious in this accounting practice; it is simply the way Generally Accepted Accounting Principles allow PBMs to report revenues and expenses.

The profit margins shown in Table 1 are consistent with the findings of Latanich,<sup>2</sup> who argued that these indicate that PBMs are not excessively profitable. Profit margin, however, is defined as net income divided by net revenues (net revenues are those the firm can reasonably expect to collect, after deducting an allowance for doubtful accounts)<sup>7</sup> and is only one way to measure profitability. Recording pass-through amounts as revenues for the PBM yields a very large measure of revenue (the denominator of the equation for profit margin), depressing measured profit margin for any given level of profit.

A more comprehensive measure of profitability is return on assets. Return on assets is net income divided by total assets and is the product of profit margin and total asset turnover.<sup>6</sup> Return on assets shares the

weakness of being based on accounting measures, in which assets are shown at their historical cost less accumulated depreciation.

The unweighted average return on assets for the firms in Table 1 is 6.94%, not unusually small. Return on assets, however, uses total assets as its denominator, and total assets includes accounts receivable, which is, again, large because of the way PBMs record their revenues. Note in Table 1 the unusually large percentage of total assets that accounts receivable constitute for each of the 4 firms. Return on assets, then, may not be a meaningful measure of the profits of the PBM industry.

### 3. An alternative revenue recognition principle

An accounting model more congruent with PBM business practices would picture the PBM as an agent. As an alternative to the PBM-as-Principal, assume that PBMs are covered under a different revenue recognition principle, reporting net revenue on a net basis, as appropriate for an agent. This revenue recognition model has the following features:

- The PBM recognizes administrative and claims-processing fees as revenue;
- Amounts to be passed through to retail pharmacies are segregated in a separate pass-through account whose revenues and expenses are not recognized as revenues and expenses of the PBM;
- The pass-through account maintains its own accounts payable and accounts receivable accounts, separate from those of the PBM;
- At the end of the accounting period, any net income in the pass-through account is recognized as revenue of the PBM.

Table 2 compares the performance of a highly simplified PBM under PBM-as-Principal and the alternative PBM-as-Agent described above.

The PBM begins the year with \$10 in (book value) assets and during the year conducts one representative transaction, for which it collects a fee of \$1

Table 2  
Hypothetical example: Alternative revenue recognition models (no Garis-Clark spread)

	PBM-as-Principal	PBM-as-Agent
Beginning assets	\$10.00	\$10.00
Fees collected	\$ 1.00	\$ 1.00
Operating expenses	\$ 0.90	\$ 0.90
Pass-through collections	\$50.00	\$50.00
Pass-through payouts	\$50.00	\$50.00
Total revenues	\$51.00	\$ 1.00
Total expenses	\$50.90	\$ 0.90
Net income	\$ 0.10	\$ 0.10
Profit margin	0.1961%	10.0000%

and incurs operating expenses of \$0.90. In that transaction, it collects \$50 from the plan sponsor and passes exactly that amount through to a retail pharmacy. At the end of the year, it recognizes income of \$0.10 (\$1.00 – \$0.90), which increases retained earnings, and, thus, total assets.

The difference between the PBM-as-Principal column and the PBM-as-Agent column, to this point, is in the amount of revenue recognized. Because PBM-as-Principal recognizes all of the pass-through amount as revenue, the measured profit margin is only 0.2% ( $\$0.10/[\$50 + \$1]$ ). Under PBM-as-Agent, however, the PBM recognizes only \$1.00 of revenue, and its measured profit margin (net income divided by revenue) is 10.0%. The difference in perceived performance is substantial (a factor of 50), even though the figure for net income (profit) is the same under the 2 revenue recognition principles.

Table 3 shows a different picture. Here, the assumed facts are the same, but the PBM collects a Garis-Clark spread of 10% (because Garis and Clark<sup>1</sup> reported an average spread of about \$5, a 10% spread is a reasonable starting point for this analysis). It collects \$55 from the plan sponsor and distributes \$50 to the retail pharmacy. The results are exaggerations of those in Table 2. Note that, in this case, the profit margin under PBM-as-Principal is only a little over 9%, while the margin under PBM-as-Agent is 85%. The absolute figure for net income (profit), however, is the same under either regime.

Tables 2 and 3 both assume a single annual transaction. They assume that both collections and disbursements for that transaction are complete by year-end. Thus, in the absence of accounts receivable and accounts payable, ending assets (and return on assets) are the same under the 2 revenue recognition methods.

Table 4 shows the results of a sensitivity analysis on the effect of the size of the spread on profit margins. As the spread (shown here in percentage terms) rises, the profit margins, under both revenue recognition principles, approach 100% asymptotically. Because the margin is closer to its asymptotic limit under PBM-as-Agent than under PBM-as-Principle, at any

Table 3  
Hypothetical example: Alternative revenue recognition models (10% Garis-Clark spread)

	PBM-as-Principal	PBM-as-Agent
Beginning assets	\$10.00	\$10.00
Fees collected	\$1.00	\$1.00
Operating expenses	\$0.90	\$0.90
Pass-through collections	\$55.00	\$55.00
Pass-through payouts	\$50.00	\$50.00
Total revenues	\$56.00	\$6.00
Total expenses	\$50.90	\$0.90
Net income	\$5.10	\$5.10
Profit margin	9.1071%	85.0000%

Table 4

Hypothetical example: sensitivity of differences in profit margin to changes in the Garis-Clark spread

Percentage spread	Profit margins	
	PBM-as-principal	PBM-as-agent
0%	0.1961%	10.0000%
1%	1.1650%	40.0000%
5%	4.8598%	74.2857%
10%	9.1071%	85.0000%
15%	12.9915%	89.4118%
20%	16.5574%	91.8182%
25%	19.8425%	93.3333%

percentage spread, the margin rises more slowly under the PBM-as-Agent accounting principle.

#### 4. Discussion

PBM filings with the US Securities and Exchange Commission show healthy profits. Whether or not these profits are excessive is not clear. It is clear, however, that the recognition of gross revenues (under EITF 99-19) makes traditional financial statement analysis of this industry unrevealing.

Whether PBMs should recognize all of their collections from plan sponsors as revenues (and all of their dispersals to pharmacies as expenses) is, ultimately, a matter for the FASB. Further, the currently used accounting practices may hide genuinely outstanding financial performance. The current accounting standard of PBM-as-Principal seems to be less descriptive of the actual PBM business model than a PBM-as-Agent standard would be. This situation presents an opportunity for further research and development by students of accounting, financial analysis, law, and social and administrative pharmacy.

This research opportunity comes at a particularly important time because of the confluence of 3 events. The first event is the rapid approach of the Medicare Drug Benefit (Part D in 2006), which includes a major role for PBMs. The second event is the present legislative atmosphere toward the PBM industry. Currently, 3 states have legislation to regulate PBMs and 15 other states have proposed legislation for PBM regulation. Further, lawmakers generally have the impression that PBMs are only modestly profitable. Finally, there is an increasingly strong demand by public and private plan sponsors for transparency in the PBM business model. Accurate representation of the financial performance of PBMs is certainly congruent with this demand for transparency.

The PBM industry is, in most circles, poorly understood. Social and administrative pharmaceutical scientists are ideally suited to collaborate

with researchers in accounting, law, and finance as resident experts on PBM business practices. Only with such collaborations can regulators such as the FASB gain information to accurately prescribe accounting practices consistent with the business activities of the PBM industry.

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