CARDINAL HEALTH [CAH] - UPDATE

Date: December 16, 2003
Market Capitalization: $27.5 billion
Price: $63.55

Abstract: Cardinal is an essential link that connects pharmaceutical companies with their major customers, hospitals and retailers. Cardinal's main competitors are McKesson (MCK) and Amerisourcebergen Corporation (ABC). More than just a transporter of pills, the company derives revenue from four main segments:

Pharmaceutical Distribution and Provider Services (PD) provide 81.3% of the revenues and 49.2% of profits (2.46% EBIT margin).

Medical-Surgical Products and Services (MS) provide 13% of revenues and 27.8% of profits (8.7% EBIT margin).

Pharmaceutical Technologies and Services (PT&S) provide 4.6% of revenues and 19.8% of profits (17.6% EBIT margin).

Automation and Information Services (A&IS) provide less than 1.1% of revenues but 9.8% of profits (37.1% EBIT margin).

We issued a comprehensive report on Cardinal Health on April 24, 2003. Much of what we wrote still holds good. This report is an update following the filing of the company's latest 10K and fiscal 2004's 1st quarter 10Q. **A discussion of Cardinal's bloated inventory and related deferred tax liability dominates this update.** Accordingly, we deal with the inventory concerns up-front, with the rest of the analysis following. We apologize for the length of the discussion, but we believe we have unearthed an obscure but apparently legitimate source of earnings enhancement, that requires a thorough analysis to ensure that the right conclusions are drawn.

Initial report April 24, 2003

Major Inventory Concerns: Accounting Issues

The discussion is an attempt to get to grips with Cardinal's bloated inventory number and in particular, the related fast expanding deferred tax liability. We voiced our concerns to Cardinal's IR department. We have added their comments to provide balance, as well as extracts from past conference calls (Part III) relating to inventory. Our concerns do not entail suspicions of accounting irregularities. However, the way in which the company and others in the industry are interpreting and applying the accounting and tax rules enhances earnings. This trend may not be sustainable and does not produce quality earnings.

Higher Inventory Levels On the face of it, DSOs in inventory are at near-term lows. However, Cardinal carries $8.2 billion in inventory, or more than 50 days, tying up a lot of capital. This should be a major concern for shareholders of Cardinal Health, more so as its two main competitors carry significantly lower inventories. DSOs in Amerisourcebergen's (ABC) inventory were 43 days at the end of September 2003, and

McKesson was only 39 days. To bring Cardinal's DSOs in line with ABC, it would have to cut its inventory level by $1.2 billion.

Inventory Analysis - DSOs

($ million)	30-Jun Q4	30-Sep Q1	31-Dec Q2	31-Mar Q3	30-Jun Q4	30-Sep Q1	31-Dec Q2	31-Mar Q3	30-Jun Q4	30-Sep Q1
Fiscal	2001	2002	2002	2002	2002	2003	2003	2003	2003	2004
Inventories	6,286.1	7,704.7	8,255.2	7,902.0	7,361.0	7,250.3	8,313.3	8,775.6	7,623.3	8,253.7
DSOs	49.5	63.9	61.4	58.4	55.4	54.0	57.5	59.9	49.2	51.9

As if anticipating our concern, management notes in the 10K. "The company maintains a high level of inventory in order to be able to take advantage of price changes and to be able to satisfy daily delivery requirements, but is not generally required by its customers to maintain particular inventory levels… The company is not aware of any material differences between its inventory policies and those of other industry participant."

Consolidation at both ends of the supply chain has forced the intermediaries to carry larger inventory for manufacturers and retailers without concomitant margin compensation. Cardinal's share of this burden seems disproportionate to its major competitors.

Payables Fund Inventory Purchases One could argue that the pharmaceutical companies are essentially funding the investment in inventory as demonstrated by the accounts payable balance on the other side of the balance sheet. This is only partly true for Cardinal, because the company owes its creditors $6.1 billion, which in no way covers the $8.2 billion in inventories on the shelves. Stated another way, inventories represent 52 days of sales compared to 39 days in payables.

Note in the table below that the net investment in inventories number reported a huge increase in the 1st quarter of fiscal 2002. The 10Q filed in November 2001 explained the large sequential increase in inventories as follows: "Working capital increased to $4.9 billion at September 30, 2001 from $4.1billion at June 30, 2001. This increase resulted from additional investment in inventories partially offset by effective asset management. Inventories increased by $1.4 billion during the first quarter of fiscal 2002. This reflects the higher level of business volume in Pharmaceutical Distribution and Provider Services' activities, as well as initiatives to augment inventories in support of the Company's commitment to emergency-response readiness. A portion of the inventory increase can also be attributed to the Company investing in inventories in conjunction with various vendor-margin programs."

Cardinal's Net Investment in Inventory

($ million)	30-Jun Q4	30-Sep Q1	31-Dec Q2	31Mar Q3	30-Jun Q4	30-Sep Q1	31-Dec Q2	31Mar Q3	30-Jun Q4	30Sep Q1
Fiscal	2001	2002	2002	2002	2002	2003	2003	2003	2003	2004
Inventory	6,286.1	7,704.7	8,255.2	7,902.0	7,361.0	7,250.3	8,313.3	8,775.6	7,623.3	8,253.7
Accounts Payable	5,319.9	5,663.8	5,612.9	5,266.9	5,504.5	5,299.8	6,094.5	6,465.2	5,288.4	6,156.6
Net Inv'ment in Inv.	966.2	2,040.9	2,642.3	2,635.1	1,856.5	1,950.5	2,218.8	2,310.4	2,334.9	2,097.1
- Y/Y increase					92.1%	-4.4%	-16.0%	-12.3%	25.8%	7.5%
Inventory	6,286.1	7,704.7	8,255.2	7,902.0	7,361.0	7,250.3	8,313.3	8,775.6	7,623.3	8,253.7
- Y/Y Increase in Inv.					17.1%	-5.9%	0.7%	11.1%	3.6%	13.8%

The second line in the table below tabulates DSOs in Accounts Payable for Cardinal.

DSOs in Payables

($ million) Fiscal	30-Jun Q4 2001	30-Sep Q1 2002	31-Dec Q2 2002	31Mar Q3 2002	30-Jun Q4 2002	30-Sep Q1 2003	31-Dec Q2 2003	31Mar Q3 2003	30-Jun Q4 2003	30-Sep Q1 2004
Accounts Payable	5,319.9	5,663.8	5,612.9	5,266.9	5,504.5	5,299.8	6,094.5	6,465.2	5,288.4	6,156.6
DSOs	41.9	46.9	41.8	38.9	41.4	39.5	42.2	44.2	34.1	38.7
Other Payables	1,240.7	1,368.2	1,392.2	1,486.6	1,287.7	1,320.9	1,462.1	1,465.0	1,733.0	1,620.4
DSOs	9.8	11.3	10.4	11.0	9.7	9.8	10.1	10.0	11.2	10.2
Total DSOs	51.7	58.3	52.1	49.9	51.1	49.3	52.3	54.2	45.3	48.9

Cardinal's large competitors take approximately 40 days to pay for inventory purchases. Cardinal follows the same practice, which suggests that the pharmaceutical companies uniformly enforce the settlement of payables within 40 days. With account receivable DSOs at about 20 days for the big three, the drug companies provide their distributors with a cash float of about 20 days of purchases.

Net-Investment in Inventory When measured against its peers, Cardinal comes out a distant second. Both ABC and McKesson have relatively little invested in inventories after adjusting for the amounts owed to creditors.

Amerisourcebergen and McKesson's Net Investment in Inventory

	Sept. 30, 2003		Sept. 30, 2003
Amerisourcebergen		**McKesson**	
Inventory	5,734	Inventory	6,944
Accounts Payable	5,394	Accounts Payable	7,222
Net Investment in Inventory	340	**Net Investment in Inventory**	(278)
Inventory – DSOs	43	Inventory – DSOs	39
Accounts Payable – DSOs	40	Accounts Payable – DSOs	41

It strikes one that both ABC and McKesson have no real net investment in inventory – see table above – while Cardinal sits with a $2.1 billion net investment. Cardinal seems to be funding approximately a quarter of its inventory purchases with internal cash. One might conclude that Cardinal is settling its payables more timeously to take advantage of settlement discounts, which might explain Cardinal's superior gross margin. This is not the case. DSOs in payables for the three distributors are too close to one another to attribute early settlement as a major factor of differentiation.

The Smoking Gun We fear the reason for the bloated inventory number may lie elsewhere. To find the answer, we consulted the footnote that reveals information about a $521 million deferred tax liability described as "Inventory Basis Difference."

A deferred tax liability means the book value of the applicable assets exceeds the tax value by the differential times the tax rate. A deferred tax liability of $521 million associated with the carrying value of $7.6 billion (at year end 2003) in inventories means that for tax purposes the inventory is only worth $6.1 billion, that is, a $1.5 billion difference ($521.1/0.35 = $1,488.9).

What could be the reason for this state of affairs? We first offer our thoughts and then tell you how Cardinal's IR responded.

Some may argue that Cardinal could have written down its inventory by $1.5 billion for tax purposes but delayed the write down for book purposes. This is clearly not the case. It might have taken some write offs for tax purposes, but these would have been relatively small amounts.

If acquisition activity explains this large increase, which we don't buy, then one could argue that the acquired companies had the same problem, and this would not alter the analysis. Another possibility is that the inventory values were "stepped-up" on acquisition, but it is difficult to see how this could add up to anything material.

Expense Deferrals? Another reason for the inflated book value when compared to the tax value could be that the company had capitalized operating expenses to the inventory line but expensed the same for tax purposes. For a manufacturer such as Cardinal, it is reasonable to assume that the company capitalizes direct and indirect manufacturing costs to inventory as a matter of course. Perhaps some of these are taken as tax deductions immediately and later on for book purposes on the sale of inventory. This will give rise to a deferred tax liability with the size of the liability dependent on the rate of capitalization. Cardinal's IR dismissed this suggestion, but we will proceed with this kind of reasoning for the moment.

Experts consulted confirmed our interpretation as a possibility and provided additional insights, none of which make the presence of this large deferred tax liability on the balance sheet more palatable. For example, occasionally inter-company transactions with international affiliates outside the consolidated return give rise to deferred tax adjustments, although these normally create a deferred tax asset on markup. Another situation arises when inventory is revalued due to currency movements in an international non-dollar-functional affiliate that uses a standard costing system. A depreciation in the dollar results in a loss on inventory when revalued at standard costs, which may be claimed as an immediate tax loss but will be amortized for accounting purposes. Non-US revenue comprises less than 2% of total sales, which make the above observations purely academic for the purpose of our analysis.

Another suggestion was that royalty payments are being capitalized in inventory. We are not aware of Cardinal being committed to such major royalty payments.

This brings us back to a feasible, but troublesome conclusion (not supported by Cardinal's IR, but more about that later) that operating expenses may possibly be capitalized in inventory to an extent that seems excessive. This practice inflates near-term earnings and puts future earnings under pressure, as all capitalized expenditures are eventually expensed.

The table below shows that the tax value of Cardinal's inventory was on average equal to approximately 88% of book value for the years 1996 to 2001. During this period, the increase in the deferred tax liability was gradual and in line with the general trend of events. For 2002 and 2003, the accrual took off, to the point where the tax value of inventory is now only 80.5% of the carrying value of inventory on the balance sheet. The positive impact on EPS in 2002 and 2003 was material.

Deferred Tax Liability Analysis

($ million)	1996	1997	1998	1999	2000	2001	2002	2003
Deferred Tax Liability:								

Inventory Basis Difference	(42.1)	(58.1)	(90.0)	(138.9)	(180.4)	(234.7)	(385.9)	(521.1)
- change				(48.9)	(41.5)	(54.3)	(151.2)	(135.2)
Difference – (IBD/0.35)	(120.3)	(165.9)	(257.2)	(396.9)	(515.4)	(670.6)	(1,102.6)	(1,488.9)
($ million)	**1996**	**1997**	**1998**	**1999**	**2000**	**2001**	**2002**	**2003**
- change				(139.6)	(118.6)	(155.1)	(432.0)	(386.3)
Total Inventory - Book Value	1,272.6	1,436.2	1,895.5	2,940.0	4,657.0	6,286.1	7,361.0	7,623.3
Total Inventory - Tax Value	1,152.3	1,270.3	1,638.3	2,543.1	4,141.6	5,615.5	6,258.4	6,134.4
Tax Value as % of Book Value	90.5%	88.4%	86.4%	86.5%	88.9%	89.3%	85.0%	80.5%
EPS Enhancement				$0.20	$0.17	$0.22	$0.61	$0.55

Finally, we looked at ABC's and McKesson's balance sheets, only to discover that the industry must be playing "Simon says," as the same patterns are detectible, although the year over-year-change in the carrying values are not uniform. It makes for a fascinating study, and we feel there is more to all this than meets the eye.

	2000	2001	2002	2003
Amerisourcebergen	(163.2)	(345.4)	(347.2)	*
- increase		(182.3)	(1.8)	*
Book Value of Inventory	1,570.5	5,056.3	5,437.9	*
Tax Value of Inventory	1,104.3	4,069.3	4,445.8	*
- Tax Value/Book Value	70.3%	80.5%	81.8%	*
* Awaiting filing of 10K				
McKesson	(208.0)	(251.0)	(293.6)	(455.8)
- increase		(43.0)	(42.6)	(162.2)
Book Value of Inventory	4,149.3	5,116.4	6,011.5	6,022.5
Tax Value of Inventory	3,555.0	4,399.3	5,172.6	4,720.2
- Tax Value/Book Value	85.7%	86.0%	86.0%	78.4%
Cardinal	(180.4)	(234.7)	(385.9)	(521.1)
- increase		(54.3)	(151.2)	(135.2)
Book Value of Inventory	4,657.0	6,286.1	7,361.0	7,623.3
Tax Value of Inventory	4,141.6	5,615.5	6,258.4	6,134.4
- Tax Value/Book Value	88.9%	89.3%	85.0%	80.5%

Cardinal's IR Department A spokesperson at Cardinal returned our call and attributed the deferred tax liability to a variety of issues, the exact details of which the company obviously has no obligation to disclose. We would encourage clients to do their own due diligence by calling the company. Short of taping such conversations, which is illegal, or being very good at shorthand, which we are not, the risk is that we misquote the IR person's response. The company seems quite at ease with the level of inventory and the size of the deferred tax liability, as well as the sudden surge in the carrying value in 2002 and 2003. They assured us that there was no improper capitalization of operating expenses. The deferred tax liability, according to IR, was due in part to factors such as discounts and rebates, which is about as specific as the conversation got, not that there was any attempt to hide anything, but for competitive and other regulatory reasons, answers have to be kept short and sweet.

We did not feel we could go into an accounting and tax tutorial with IR, and they certainly have no obligation to indulge us. It will take more than a couple of days unravel this mystery and we do not wish to delay the publication of the update. However, we quickly compared notes with our body of trusted experts and advisors. We are happy to conclude that it really does not matter whether the deferred tax liability arises from the capitalization of operating expenses or from the early recognition of vendor rebates/discounts for book purposes and the delayed recognition of the same for tax purposes. In both situations, it raises quality of earnings questions.

(As an aside, we have not found deferred tax liabilities relating to inventory on the balance sheets of non-pharmaceutical distributors like Tech Data and CDW. This is definitely an industry-specific phenomenon but not well publicized.)

To clarify the issues for ourselves, we constructed a few hypothetical examples, which are not included in the report. We will share these with any of our clients who may require further explanations. However, it all boils down in simple terms (the real terms might be a minefield of complex rules) to the fact that generous discounts or rebates offered by suppliers, or vendors, can work wonders in both the accounting and the tax records (inflating book income and deflating taxable income).

From our perspective, the accounting records recognize the rebates immediately, but for tax purposes, the rebates (credits) are booked against the carrying value of inventory, resulting in a lower inventory value for tax purposes, thus delaying the recognition of the income for tax purposes. The exact machination may differ from this interpretation but in the final analysis, it yields the same outcome, higher book earnings, and lower taxable income. Our body of experts and advisers could not find the relevant sections of the GAAP or tax rule that would authorize this kind of treatment, but the auditors signed off, and they know better. Besides, this seems to be an accepted practice in the industry, so we are not exposing a deliberate deception – we would certainly hope not.

By crediting the rebate to the tax value of inventory, it has the same beneficial effect of debiting an expense to the book value of inventory. The problem is that the impact is temporary as all timing differences eventually reverse unless new differences are found to replace reversing differences.

Cardinal's IR also labored under the misapprehension that the increase in the deferred tax liability tracked the increase in revenue. Not so, the carrying value of the liability as a percentage of sales was as follows for the past four years, from 2000 to date, respectively: 0.47%, 0.49%, 0.75% and 0.92%. Once these rebates and discounts are used to juice earnings, it is very difficult to reverse.

Why belabor the inventory issue? History tells us that when companies disappoint, the finger often points to balance sheet numbers that were out of line. The growth in Cardinal's inventory is troublesome, but the large deferred tax liability associated with the company's inventory adds considerably to our unease. We have consulted reliable and influential sources to make sure we are not out on a limb. In each case, the size of the deferred tax liability raised eyebrows. In Part III of the report, we list extracts from conference call transcripts referring to inventory.
We offer the following matrix as an example of what we look for in gross margins and inventories. The worst of all scenarios is a declining gross margin, accompanied by a build up of inventory. Unfortunately, this is where Cardinal finds itself and hence our reservations.

Gross Margin vs. Inventory DSOs	Gross Margin Declining	Gross Margin Increasing
Inventory DSOs - Declining	Not all that bad	The best outcome
Inventory DSOs - Increasing	Bad	Not all that good

There are compelling reasons for owning Cardinal stock, but if the company is "guilty" of over-aggressively capitalizing operating costs (apparently not the case) or utilizing vendor rebates/discounts to enhance earnings, there is no way in the world we would recommend holding the stock. At this stage, we are relying on publicly available documents for our opinion and interpretation, as well as limited insights gained from a conversation with Cardinal's IR department. We are not spreading rumors about accounting improprieties. As an initial alert, we set forth our findings. We will update our clients as more information becomes available. Our clients are the only legitimate recipients of this note, which constitute a private communication, not for public consumption.

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