

Profit Improvement Report

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The Siren Song of Inventory Reductions

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The downturn in economic activity caught many firms somewhat off guard. As a result of sales challenges, cash sufficiency has become a very serious issue. For the typical CIPH member, cash now represents only 0.2% of total assets. It is a cash position that does not leave a lot of room for error.

To offset the cash challenge, most firms have looked at reducing the “cash traps” in the business, particularly inventory. While reducing the investment in inventory is a laudable objective, it is fraught with some danger. It is possible, and maybe even likely, that the drive to lower investment levels will trigger further sales declines, through a higher occurrence of out-of-stock situations.

This report will examine the trade-off between maintaining sales volume with an appropriate inventory investment versus having too much money tied up in non-productive assets. It will do that by addressing two key issues:

- **Inventory Versus Sales**—An analysis of the relationship between inventory reductions and sales declines.
- **Inventory Reduction Opportunities**—A review of how inventory can be reduced without impacting sales volume.

Inventory Versus Sales

Every firm needs sales volume to survive. It also needs cash to pay its bills. While these two concepts usually go hand in hand, sometimes they do not. To understand the trade-offs between the two, it is useful to look at some of the financial results for the typical CIPH member:

- Net Sales: \$60,000,000
- Net Profit Before Taxes: \$3,000,000, or 5.0% of sales
- Inventory: \$11,000,000, or 44.0% of the firm’s total asset investment
- Cash: \$50,000, or 0.2% of total assets

Clearly, the magnitude by which inventory dwarfs cash suggests a major opportunity for reallocation of assets. If the firm could reduce its inventory by 5.0%, which is certainly within the realm of possibility, then inventory could be reduced by \$550,000. If all of the inventory reduction was put into cash, then cash would be increased by 1100.0%. From a cash flow perspective it is an attractive, and possibly even essential, shifting of funds.

At the same time, even a modest 5.0% reduction in inventory has the potential to lower sales volume, if the reduction lowers the firm's service level. **Exhibit 1** reviews the challenges associated with an inventory reduction by looking at current results and three different scenarios.

In the exhibit, expenses are broken into three categories. Inventory carrying costs are the cost of maintaining inventory, such as interest, property taxes and the like. The inventory carrying cost factor is assumed to be 12.0% of inventory so these costs are \$1,320,000 (inventory of \$11,000,000 times 12.0%). Variable costs such as commission and bad debts are assumed to be 4.0% of sales, or \$2,400,000. All other expenses are in the fixed (or overhead) category.

The first column of numbers merely reviews the results for the typical CIPH member. The second column explores a 5.0% reduction in inventory that is achieved without impacting sales. The result is that inventory is reduced by the \$550,000 figure mentioned earlier.

With no sales reduction, the inventory carrying cost figure drops by the same 5.0% as the inventory reduction. The result is a profit increase of \$66,000. Cash has been increased dramatically and profit is up slightly, a perfect scenario.

The third column of numbers builds a scenario in which the 5.0% reduction in inventory results in sales declining by the same 5.0%. This is merely illustrative, as the exact impact of an inventory reduction on sales would obviously vary from company to company. Even with a very modest sales decline, the impact on profit is severe. The reduction in inventory carrying costs is more than offset by the drop in sales and drives profits down to \$2,391,000, a 20.3%% decline. The firm still has more cash in the short run, but is mortgaging its sales future.

Finally, the last column of numbers determines the sales decline that will exactly offset the 5.0% reduction in inventory from a profit perspective. As can be seen, if sales fall by only 0.5% (0.489% to be precise), then the entire profit impact of the inventory reduction is offset. The firm still has more cash, but has not enhanced its profits.

The unknown factor, of course, is the extent to which sales will fall because of a reduction in inventory. That is dependent entirely upon the methods employed to drive the inventory reduction. In too many instances they tend to be a little ham-handed and do more harm than good.

Inventory Reduction Opportunities

Ideally, the firm will want to have its cake and eat it too. It desires to lower inventory with no negative impact on sales. If done with care, there is the potential to achieve this goal. Too often, though, the inventory reduction strategy is to cut inventory across the board, typically through a “stop buying” edict. The immediate impact of such an action is to drive the investment in A items well below needed levels to support sales. The firm suffers both a sales decline due to being out of stock and a hit to its reputation.

At the other extreme, the firm may focus only on the slowest-selling items. This is a great long-term strategy as many D items are pockets of excess inventory. However, because the D items are, by definition, slow selling, the inventory reduction process is agonizingly slow when centered here.

Ultimately, firms need to break the inventory investment into pockets of opportunity. Since every firm is unique, it is not possible to make precise recommendations. However, the following figures are illustrative of how much inventory can be reduced without suffering a sales decline.

- A Items: No reduction
- B Items: 1.0% to 2.0% reduction
- C Items: 5.0% reduction
- D Items: 10.0% reduction

Over time, this will produce the inventory reduction required to generate more cash. Given that many of the D items are duplicated elsewhere in the assortment, there should be little, if any, sales loss. The payout, alas, will come at a modest pace rather than quickly.

Moving Forward

It is essential that firms avoid any inventory reductions that impact sales. Given current cash levels, quick inventory reductions are a tempting short-run target, but are also a long-run impediment to success. The firm would be better served to slowly eliminate redundant items from the assortment. It is a strategy for all seasons that should not be abandoned when the economy improves.

About the Author:

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A Managerial Sidebar: Inventory Carrying Costs

There is considerable debate as to exactly what should be included in calculating the Inventory Carrying Cost (ICC). In most cases the ICC is overstated, with estimates ranging as high as 36% per year.

The most volatile factor in the ICC calculation is the interest rate which rises and falls with economic activity. In normal times, the ICC is probably no higher than 12.0%. The following indicates the key elements of the ICC and their levels:

<u>Factor</u>	<u>Amount</u>
Interest	3.0 to 5.0%
Property Taxes	0.0 to 2.0%
Insurance	1.0 to 2.0%
Obsolescence	
Non-perishable Items	0.0 to 1.0%
Perishable Items	6.0 to 10.0%
Electronics	4.0 to 10.0%
Inflation (Negative Carrying Cost)	-2.0 to -5.0%
Rent (No Reduction in Warehouse)	0.0%
Material Handling Costs (Increase as Inventory Falls)	0.0 to -4.0%
Miscellaneous	2.0 to 3.0%