RÉPONSE D'HYDRO-QUÉBEC
À L'ENGAGEMENT NUMÉRO 27

Engagement 27 :

Fournir un extrait de l'article de Halpern dans le Canadian Manager Health Finance (demandé par la Coalition).

Réponse à l'engagement 27 :

Voir les extraits aux pages suivantes.

Current Asset Management

If a firm could forecast its cash inflows and outflows perfectly, it would hold exactly enough cash to make disbursements as required, exactly enough inventories to meet production and sales requirements, exactly the amount of accounts receivable called for by an optimal policy of extending credit to customers, and no marketable securities unless the interest on such assets exceeded the minimum return required on a firm's investments (an unlikely occurrence). The current asset holdings under the perfect foresight case would be the theoretical minimum for a profit-maximizing firm. Any larger holdings would increase the firm's assets without a proportionate increase in its returns, thus lowering its rate of return on investment. Any smaller holdings would mean the inability to pay bills on time, lost sales and/or production stoppages because of inventory shortages, and lost sales because of an overly restrictive credit policy. When uncertainty is introduced into the picture, current asset management involves (1) the determination of the minimum required balances for each type of asset and (2) the addition of a safety stock to account for the fact that forecasts are imperfect.

Risk–Return Tradeoff

If a firm follows a *"relaxed" working capital asset policy*, relatively large balances of cash and marketable securities will be maintained, large amounts of inventories will be kept on hand, and sales will be stimulated by the use of a credit policy that provides liberal financing and consequently results in a high level of accounts receivable. (The term "relaxed" as used here has no negative connotations.) If it follows a *"restricted" working capital asset policy*, the situation will be reversed, and inventories will be kept at minimal levels. The restricted policy generally produces the highest expected returns on investment, but it also involves the greatest risk. Examples of three alternatives are presented in Table 7-2. As one can observe in the table, the relaxed policy has the highest ratio of current assets to sales; the restricted approach minimizes the holdings of current assets and has the lowest ratio of current assets to sales.

In Part I of the table, it is assumed that the relaxed working capital asset investment policies stimulate sales to a slight degree because of greater inventory variety, fewer stockout problems, and more liberal credit. However, the indicated rate of return on assets is highest for the restricted working capital asset policy because here the required investment is much lower.

In Part II, an alternative set of assumptions is illustrated. It is assumed that the restricted current asset investment policy results in even greater stockouts and other problems, which lead to a larger adverse sales effect and which consequently lower the percentage of earnings before interest and taxes (EBIT) to sales. As a consequence, this policy now results in the lowest indicated return on assets. It is assumed that the moderate policy produces the same results as before, while the results of the relaxed policy are improved somewhat. Still, in Part II, the outcome for the moderate policy represents the highest return on assets for the relationships postulated.

Table 7-2
Effects of Alternative Working Capital Asset Policies on Rates of Return

	Relaxed	Moderate	Restricted
Part I			
Sales	$110 000 000	$105 000 000	$100 000 000
EBIT @ 15% of sales	16 500 000	15 750 000	15 000 000
Current assets	70 000 000	55 000 000	40 000 000
Fixed assets	50 000 000	50 000 000	50 000 000
Total assets	$120 000 000	$105 000 000	$ 90 000 000
Rate of return on assets (EBIT/assets)	13.75%	15%	16.7%
Ratio of current assets to sales	0.64	0.52	0.40
Part II			
Sales	$115 000 000	$105 000 000	$ 80 000 000
EBIT as a percentage of sales	15%	15%	12%
EBIT amount	17 250 000	15 750 000	9 600 000
Total assets	$120 000 000	$105 000 000	$ 90 000 000
Rate of return on assets (EBIT/assets)	14.4%	15%	10.7%
Ratio of current assets to sales	0.61	0.52	0.50

This example illustrates the general idea that the kind of working capital asset policy a firm follows—restricted, relaxed, or moderate—may be a stimulus to sales and profitability or may negatively affect both the volume of sales and profitability. However, in the real world, things are considerably more complex than our simple example suggests. For one thing, different types of current assets affect both risk and returns differently. Increasing the holdings of cash does more to reduce the firm's risk exposure than would a similar dollar increase in receivables or inventories, but at the same time, idle cash penalizes earnings more severely than would the same investment in marketable securities.

Generalizations are difficult when we consider accounts receivable and inventories because it is difficult to measure either the earnings penalty or the risk effects from increasing the balance of these items beyond their theoretical minimum levels.

Alternative Working Capital Financing Policies

Working capital policies involve decisions with respect to both current asset investments and the maturity structure of the finance of these investments. The implications for the risk and expected return to the firm of the current asset investment decision has been analyzed in the previous section. Here, we consider the impact of the maturity structure on the financing of the current assets—that is, the firm's *working capital financing policy.*

Our analysis of the cash flow cycle has demonstrated that as sales increase, the investment in cash, receivables, and inventories must grow proportionately. As sales rise over the years, there will be associated permanent increases in current assets. Although individual receivables accounts are paid off and individual inventory items become embodied in completed products and are sold, the continuous operations of the firm will result in rising investments in receivables and inventories as sales increase. Temporary fluctuations in sales will be associated with similar fluctuations in current asset requirements. However, even when business is seasonally or cyclically low, current assets do not drop to zero, and this has led to the development of the idea of **permanent current assets** that are equal to the *permanent level of current assets*. This is distinguished from **temporary** or **fluctuating current assets,** which are seasonal and can fluctuate from zero to a significant level. The manner in which the permanent and temporary current assets are financed constitute the firm's *working capital financing policy*. The financing policy will affect the firm's risk posture.

Maturity Matching, or "Self-Liquidating" Approach. One frequently used financing policy is that of matching the financing to the permanence of the assets; this represents the traditional notion of the *matching principle*, in which, to minimize both risk and financing costs, the firm matches the maturity of the liabilities to the length of time that the funds are needed. Therefore, short-term assets are financed with short-term liabilities and both long-term assets and permanent current assets are financed with long-term sources. This policy, which is also described as a moderate policy, is portrayed in Panel a of Figure 7-2. For example, suppose a firm borrows on a 1-year basis and uses the funds obtained to build and equip a plant that will last for 20 years. Cash flows from the plant are not sufficient to pay off the loan at the end of the year, so the loan must be refinanced. It is at this stage that the firm faces risk. First, there is the risk that the loan will have to be refinanced at interest rates higher than were expected to prevail when the borrowing occurred. Second, the lender may refuse to renew the loan. This would force the firm to search for new sources and to incur transaction costs. Had the plant been financed with long-term debt, however, the firm would face neither the risks noted above nor the added transaction costs, because cash flows would have been sufficient to retire the loan.

Alternatively, the firm could finance current assets with long-term sources of funds. In this instance, there will be periods when there is an excess of cash that will have to be invested in short-term securities. As the rates paid by the firm on the long-term sources usually exceed the investment in short-term securities, the firm will have lower profits than in instances in which the matching principle is applied.

Thus, if a firm finances long-term (permanent) assets with permanent sources of funds and fluctuating current assets with temporary sources, its financial risk is lower than it would be if permanent assets were financed with short-term debt or fluctuating current assets were financed with long-term debt. Further, the calculated net working capital—current assets minus current liabilities—will be positive.

Figure 7-2
Alternative Current Asset Financing Policies