Sources of Finance

Thomas Galvin

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Introduction

While the ability to balance debt and credit is important to a company, it must also hold some of its assets as cash and inventory as internal sources of finance.

1 Cash Management

Why should a business hold liquidity as cash? Examples include paying salaries, day-to-day expenses like paying bills and general working overhead. You cannot postpone paying salaries and wages so the cash must be on hand at all times, ready to pay. Profit is not sufficient for this, cash *must* be available. If future cash flows are uncertain (in both inflow and outflow) then cash must be retained to ensure that obligations are met. A business may want to hold cash to be able to exploit profitable opportunities at a moment's notice - for example, in a recession, some businesses may become cheaper to buy from. Cash is required to take advantage of these.

However, one reason against holding cash is that cash is subject to fluctuating interest rates - this is important for international businesses and MNCs as they will also be subject to exchange rates. Also, businesses must take advantage of the fact that they can just *borrow* cash when they need to; the ability to borrow money is a key ability of businesses that must be taken advantage of effectively. If a business knows they are capable of paying back the debt then borrowing cash to meet obligations will likely be more commonplace than paying out of pocket. Remember; businesses should be *productive*, not just rich.

How much cash? This depends on the nature of the business. This depends on economic conditions, as well as inflation rates. Utility companies, for example, are highly seasonally-variable businesses, and so will borrow more in times of greater monetary need. Also, if a business can borrow quickly and easily then it might not be necessary to borrow so much at a time. You want to be in the good books of your suppliers by being able to pay early and fully (which benefits you too, by making you eligible for cash discounts) - this requires cash.

1.1 Controlling Cash Balance

Management will set a *target cash balance* which will be maintained (or the business will attempt to). This will be the optimal cash balance to maintain. They will also set up upper and lower limits, that must not be crossed. If the upper limit is crossed then the company invests in marketable securities, or places some cash on deposit - conversely, if the cash balance drops below the lower limit, then the business sells marketable securities or perhaps gets a loan.

The issue with limits is that they are subjective - a sensible value for the limits depends on managerial experience. The businesses may also set inner limits which, when crossed, send a notification to the financial director.

It's useful to organise a cash budget, for planning purposes and exerting greater control over the company. Profiling the movement of cash (both in general, and as seasonal variations) is important - predicting cash surplus and deficit, and being good at this, enables management to anticipate how much they will need to borrow in the near future - or, if they are doing well, anticipate their investment opportunities.

1.2 Case Study

Let's take the following example as a study in cash balance. Here is the inflow/outflow data for May and June.

The company begins May with a cash balance of £20000. 25% of customers take 1 month of credit on their purchases; the company itself takes 1 month of credit on all of its purchases. The company purchases a £800000 machine in May by paying 10% of this as a deposit and deferring the rest for 6 months. Calculate the cash balance at the start of June and start of July.

May	June	
£192000	£288000	Sales
£126000	£189000	Purchases
£81500	£75000	Wages

For June:

$$\begin{aligned} &20000 + 0.75 \times 192000 \text{ (Sales up-front (this month))} \\ &\quad - 0 \times 126000 \text{ (Purchases up-front (this month))} \\ &\quad - 81500 \text{ (Wages)} \\ &\quad - 80000 \text{ (Deposit for Machine)} \\ &\quad = 2500 \end{aligned}$$

For July:

$$\begin{aligned} &2500 + 0.25 \times 192000 \text{ (Sales receivable (last month))} \\ &\quad + 0.75 \times 288000 \text{ (Sales up-front (this month))} \\ &\quad - 1 \times 126000 \text{ (Purchases payable (last month))} \\ &\quad - 0 \times 189000 \text{ (Purchases up-front (this month))} \\ &\quad - 75000 \text{ (Wages)} \\ &\quad = 65500 \end{aligned}$$

There are costs to holding insufficient cash. You lost the goodwill of suppliers if you can't meet commitments on time and you lose important opportunities and cash discounts. You also suffer the costs of borrowing and the associated overheads. Practical tips include frequent banking and evaluation of current cash levels, establish a policy for handling the breach of cash balance limits. Also, use short-term cash surpluses profitably and effectively, use overdraft effectively (interest-free credit is a valuable tool), and ensure you use fast-transfer forms of cash (eg. direct debit).

2 Inventory Management

There are several ways to manage and predict the movement of inventory. These are called *inventory management models*.

2.1 Model: Economic Order Quantity

The EOQ is the order size which minimises the combined total of holding, and ordering, costs - it strikes the balance to ensure maximal savings are met. When ordering EOQ, the annual holding costs should be *equal to* the annual ordering expenses. This model makes the following assumptions:

- The demand for inventory can be predicted at least relatively accurately and isn't highly variable.
- No buffer inventory is required - it's fine to briefly have zero inventory.
- There are no discounts on bulk purchases.

The model attempts to use these assumptions to identify the optimum ordering quantity to minimise stocking costs and associated administrative overheads. Under this model, stock levels follow a sawtooth pattern of constant frequency as the EOQ remains the same. If you have a function *cost* which defines total cost with respect to inventory level x as:

$$\text{cost}(x) = \text{cost}_{\text{holding}}(x) + \text{cost}_{\text{ordering}}(x)$$

This assumes that the holding cost of inventory is directly proportional to x - ie. holding twice as much costs twice as much. It also assumes that the ordering cost is *inversely* proportional to x - if you order twice as much inventory at a time then the (fixed) cost per order is halved in total. The EOQ is therefore equal to the point where cost(x) is minimized, ie. $\frac{d\text{cost}(x)}{dx} = 0$. Through mathematical manipulation (involving integrating out the derivative) you can deduce the following:

$$\text{EOQ} = \sqrt{\frac{2 \times (\text{annual demand in units}) \times (\text{cost of placing order})}{(\text{annual holding cost per unit per year})}}$$

With the EOQ, assuming demand is constant as stated before, the average holding quantity is exactly half of the EOQ (imagine the average of a sawtooth wave). This means the average holding cost, per unit time, is the average holding quantity multiplied by the holding cost for each item per unit time. The annual ordering cost is easy to calculate - the number of orders required annually is the total annual demand divided by the EOQ, and the annual ordering cost is this multiplied by the cost per order.

With the EOQ, you must prove that your calculated value is optimal. You can do this by first calculating the average holding cost (using the EOQ), and noting that this is nearly equal to the annual ordering cost - and that the sum of these two is minimised. This is the purpose of the EOQ after all.

$$\overline{n_{\text{hold}}} = \frac{EOQ}{2}$$
$$\overline{C_{\text{hold}}} = \overline{n_{\text{hold}}} \cdot C_{\text{unit}}$$
$$n_{\text{orders}} = \frac{\text{annual demand}}{\text{EOQ}}$$
$$C_{\text{orders}} = n_{\text{orders}} \cdot C_{\text{order}}$$

2.2 Model: Materials Requirement Planning

MRP attempts to minimise inventory holding costs. It attempts to direct the ordering process such that it is precisely driven by production demands. It uses the planned sales demand as a starting point, and uses computer software to co-ordinate delivery timing from the suppliers to coincide with production requirements. This is a coordinated top-down approach as inventory-based decisions are dependent on production levels, and takes into account quality-control times, as well as labour and machine capacity.

2.3 Model: Just-in-Time Inventory Management (JIT)

This seeks to eliminate holding costs entirely by ordering on an as-and-when basis. It's like MRP on steroids, and works by driving waiting times down to zero so there is no surplus inventory at all. This was used by the US defence industry during World War 2 and was perfected by Japanese manufacturing businesses in the 1960s.

Under JIT, supplies are delivered to the business exactly when they are required for production or sale. This requires needs excellent information systems, as well as extreme trust in the suppliers to be able to deliver *exactly* when resources are required. Under this system the holding cost is delegated in its entirety to the supplier, who not only is presumed to be able to be able to more efficiently deal with the cost of holding inventory (perhaps due to better warehouse infrastructures) but also that they can *also* minimise holding costs if the customer and supplier co-operate such that the supplier can make the supplies available directly before they are required.

This system, by nature, demands frequent deliveries and tight logistics, such as greatly favouring local and larger suppliers (local for availability and larger to be able to handle interruptions in supply flow). There inherent risk to JIT, such as the failure of a supplier to deliver on time, stall in the production workchain, but this increase in risk brings with it potentially great savings, which might be a valid risk to take in times of great crisis.

2.4 Managing Level of Inventory Control

The cost of controlling inventories must be weighed against the benefit of it. The ABC system identifies high-value inventory lines and exercise tight control over these, with lesser-valued production lines having more relaxed control. It basically directs management to areas of importance and ensures that effort is being directed to the right place (ie. you're not trying to draw blood from a rock).

- Category A: stock that is high-value and low in quantity. This should have the tightest contro.
- Category B: stock that is less expensive, but more numerous.
- Category C: high-quantity, low-valued stock (eg. individual components). Loosest control.

3 External Sources of Finance

Unlike internal sources of finance, decisions involving these require approval of outsiders, such as shareholders, beyond the managers who are normally the only people making decisions about the company. The main long-term sources are ordinary/preference shares, borrowings, and leases. Shorter term sources include bank overdraft, debt factoring, and invoice discounting. Bank overdraft allows businesses to maintain negative cash balances for some duration. Overdrafts are flexible (the amount can easily be changed). They are popular (as they are inexpensive) and easy to arrange. While they have higher interest rates than term-based loans but still competitive in the short term (as banks compete with each other).

Overdraft interest will vary based on the risk and credit score/worthiness of the debtor, and banks might ask for some statements and projections for cash flow. Banks are legally allowed to ask for some security for an overdraft. In practice, even though overdrafts are meant to be short-term sources of finance, businesses often use them as permanent, decades-long sources of finance.

3.1 Debt Factoring and Invoice Discounting

Debt factoring is the subcontracting of debt collection to another company (called a *factor*), who can dedicate resources to this, for some percentage fee of the overall debt. This is convenient as the administration of the entire portfolio can be handled elsewhere. The factor takes over the trade receivables collection for the business and, as a nice service, might offer credit background investigations and advice on credit worthiness of debtors.

Using a factor can create more concrete cash flows for the business which offers savings on the overheads of credit management. This allows key personnel to do other more tasking and important activities - which is especially important for small businesses or start-ups. MNCs have less need for external debt factors as they might have the resources to do all of this internally.

The factor will pay, in advance of the collection, an agreed percentage (typically 80% to 90%) of the face value of the debt up front, or in stages, and will then proceed to manage the collection process. The total balance, minus collection fees (and interest accrued) is then paid after an agreed period, or when the debt is collected. the charge is based on the total sales revenue (usually between 2 and 3 percent). Using a factor is not an easy way to avoid the risk of credit, however. There are two different scenarios for when non-collection occurs.

Recourse factoring is where the company still assumes liability for the debt. If the factor cannot collect the debt, or the debtor goes bankrupt in the meantime, the company must pay the factor back - in this way, the factor assumes no responsibility for the debt and is guaranteed not to lose out. Conversely, *non-recourse* factoring makes the factor assume responsibility **only in cases where the debt is unpaid due to financial instability**. If the debt is not paid due to a genuine dispute (eg. poor quality or incorrect goods) then the company still assumes responsibility. However if the debt is unpaid because the debtor simply cannot pay, then you do not need to refund the advance paid by the factor - they assume the risk. Of course, to take on this risk, the cost of the non-resource factoring is greater and they will definitely do some credit checks of their own. This also means the factor will take over all rights to pursue the company, including legal action if necessary.

This is related to the similar practice of *invoice discounting*, selling invoices to te factor. Here the factor does not pay outright the value of the debt. Instead they provide a loan based on the proportion of the face value of the business' sales on credit. This is usually 75% to 80% of the value of the sales invoices.

The business repays the advance in two to three months and the responsibility for collection is still on the business itself; repayment is not dependent on whether the debt can be collected or not. This might be useful when a customer purchases goods on credit, but you need cash from that transaction as soon as possible.

3.2 Additional External Sources of Finance

Loan capital has a low risk, but a lower return than something like preference shares, or ordinary shares (the latter of which has the highest risk, but the highest return) - from an investor's perspective. For an existing business' perspective, this situation is the reverse - loan capital is the most expensive. *Risk* refers to the possibility of the expected outcome of an event differing from the actual outcome. Investors require a better return (or compensation) for riskier investments. This explains why ordinary shares are the riskiest form of investment - they are subject to the most variation and have lesser priority over preference shares.

Interest rates on borrowings depends on when it is paid - if it is not paid immediately you end up paying compound interest. If loan-based investments are unsuccessful then you risk accumulating interest, which is where loan securities come in (fixed or floating). Successful investments solidify lender's claims. If the business fails, then there is an order to who is repaid first:

- Fixed charges.
- Winding-up expenses.
- Preferential creditors including employees, debenture holders and **unpaid tax**
- *Floating* charges
- Unsecured creditors
- Preference shares
- Ordinary shares

Shareholders have voting rights, but have the risk that the entire share value may be lost, and that dividends are issued at company discretion; **debenture holders** have fixed or floating charges which will almost always be repaid, and must be paid interest on the loan. However, they are just a company creditor; they lack voting rights.

4 Leasing

Leasing is the borrowing and security over an asset without outright purchase. The lessor leases the asset to the lessee, and provides an alternative to borrowing (it cuts out the transfer of money). A *finance lease* is where legal ownership always stands with the lessor, and all risks and rewards of leasing are transferred to the lessee. They are generally long-term and are very similar to lending. Examples include aviation and lease of aircraft. An *operating lease*, however, ensure the risks and rewards still remain with the lessor. These are short term and are a form of hire/rental for assets, and are generally chosen when a certain asset must be leased out to many different companies; these may be chosen, for example, when a builder hires earth-moving equipment for a short period of time for one job only.