

Working Capital (WC) Management

Definitions: WC refers to a firm's investment in short-term assets – cash, marketable securities, inventory, and accounts receivables.

- Gross WC: Total current assets
- Net WC: Current assets – Current liabilities
- WC Policy: Decisions as to (1) target levels for each category of current assets, and (2) how current assets will be financed.
- WC Management: Controlling cash, inventories, and accounts receivables, plus short-term liability management.
- Working capital policy is reflected in current ratio, quick ratio, turnover of cash and securities, inventory turnover.

Cash Conversion Cycle (CCC)

The cash conversion model focuses on the length of time between when a company makes payments to its creditors and when a company receives payment from its customers.

$$\text{CCC} = \begin{array}{l} \text{Inventory} \\ \text{conversion} \\ \text{period} \end{array} + \begin{array}{l} \text{Receivables} \\ \text{collection} \\ \text{period} \end{array} - \begin{array}{l} \text{Payables} \\ \text{deferral} \\ \text{period} \end{array}$$

Rationale for holding cash:

1. Transactionary purposes: Must have some cash for day-to-day operations.
2. Precautionary purposes: Held in reserve for unforeseen circumstances.
3. Compensation to banks for providing loans and/or services.
4. Speculative purposes: To take advantage of bargains, to take discounts, etc.

What's the goal of cash management?

- To meet above objectives, especially to have cash for transactions, yet not have any excess cash.
- To minimize transactions balances in particular, and also needs for cash to meet other objectives.

How to reduce cash and securities without harming operations?

Securities could be sold off and combined with existing cash used to reduce debt, to buy back stock, or to invest in operating assets.

Elements of Credit Policy:

1. Credit period: How long to pay?
2. Cash discounts: Lower price - attracts new customers.
3. Credit standards: Tighter standards tend to reduce sales, but reduce bad debt expense.
4. Collection policy: How tough? Tougher policy may damage customer relationships.

Working Capital Financing Policies

- Moderate: match the maturity of the assets with the maturity of the financing.
- Aggressive: use short-term financing to finance permanent assets.
- Conservative: use permanent capital for permanent assets and temporary assets.

What is short-term credit, and what are the major sources?

- Short-term credit: any debts scheduled for repayment within one year.
- Major sources:
 - * Accounts payable (trade credit)
 - * Bank loans
 - * Commercial paper
 - * Accruals

Is short-term credit riskier than long-term?

To a company – YES as required repayment always looms. There may also have problems rolling over loans.

Advantages of short-term credit:

- Low cost--visualize yield curve
- Can get funds relatively quickly
- Can repay without penalty.

What is trade credit?

- Trade credit is credit furnished by a firm's suppliers.
- Trade credit is often the largest source of short-term credit, especially for small firms.
- Spontaneous, easy to get, but cost can be high.

Capital Structure and Leverage

What is business risk?

- Uncertainty about future operating income (EBIT), i.e., how well can we predict operating income?
- Note that business risk does not include financing effects.
- Business risk is affected primarily by:
 - * Uncertainty about demand (sales).
 - * Uncertainty about output prices.
 - * Uncertainty about costs.
 - * Product, other types of liability.
 - * Operating leverage.

What is operating leverage, and how does it affect a firm's business risk?

- Operating leverage is the use of fixed costs rather than variable costs.
- If most costs are fixed, hence do not decline when demand falls, then the firm has high operating leverage.
- More operating leverage leads to more business risk, for then a small sales decline causes a big profit decline.

What is financial leverage and what is Financial risk?

- Financial leverage is the use of debt and preferred stock.
- Financial risk is an increase in stockholders' risk, over and above the firm's basic business risk, resulting from the use of financial leverage.

Business Risk vs. Financial Risk

- Business risk is the risk associated with projections of a firm's future returns on assets. It depends on business factors such as competitions, product liability, and operating leverage.
- Financial risk depends only on the types of securities issued i.e. more debts, more financial risk.

Bonds

A bond is a long-term contract under which a borrower agrees to make payments of interest and principal, on specific dates, to the holders of the bond.

Key Features of a bond

1. Par value - face value paid at maturity. Assume \$1,000.
 2. Coupon interest rate – stated annual rate of interest of a bond. Multiply by par value to get amount of interest. Generally fixed.
 3. Maturity date – a specified date on which the par value of the bond must be repaid.
 4. Issue date - date when bond was issued.
 5. Call provision – a provision in a bond contract that gives the issuer the right to redeem the bonds under specified terms prior to the normal maturity date.
 6. Sinking fund provision – a provision in a bond contract that requires the issuer to retire a portion of the bond issue each year.
- The discount rate (k_D) is the opportunity cost of capital, i.e., the rate that could be earned on alternative investments of equal risk.

Example : A bond consists of 10-year, 10% annuity of \$100 per year plus a \$1,000 lump sum.

PV annuity	\$ 614.46
PV maturity value	<u>385.54</u>
PV bond	<u>\$1,000.00</u>

- At maturity, the value of any bond must equal its par value.
- The value of a premium bond would decrease to \$1,000.
- The value of a discount bond would increase to \$1,000.
- A par bond stays at \$1,000 if k_D remains constant.

What is the “yield to maturity (YTM)”?

YTM is the rate of return earned on a bond if it is held to maturity. Also called the “promised yield.”

- If coupon rate $< k_D$, discount.
- If coupon rate $= k_D$, par bond.
- If coupon rate $> k_D$, premium.
- If k_D rises, price falls.
- Price = par at maturity.

What is reinvestment rate risk?

The risk that cash flows would have to be reinvested in the future at lower rates, reducing income.

Illustration: Suppose you just won \$500,000 playing the lottery. You'll invest the money and live off the interest. You buy a 1-year bond with a YTM of 10%.

Year 1 income = \$50,000. At year-end, you get back \$500,000 to reinvest.

If rates fall to 3%, income will drop from \$50,000 to \$15,000. Had you bought 30-year bonds, income would have remained constant.

- Long-term bonds: High interest rate risk, low reinvestment rate risk.
- Short-term bonds: Low interest rate risk, high reinvestment rate risk.
- Nothing is without risk!

Types of bonds:

- Treasury bonds – bonds issued by the federal government, sometimes referred to as government bonds.
- Corporate bonds – bonds issued by corporations.
- Municipal bonds – bonds issued by state and local governments.
- Foreign bonds – bonds issued by either foreign governments or foreign companies.
- Floating rate bond – a bond whose interest rate fluctuates with shifts in the general level of interest rates.
- Zero coupon bonds – a bond that pays no annual interest but is sold at a discount below par, thus providing compensation to investors in the form of capital appreciation.
- Original issue discount bond – any bond originally offered at a price below its par value.
- Convertible bond – a bond that is exchangeable, at the option of the holder, for common stock of the issuing firm.
- Income bond – a bond that pays interest only if the interest is earned.
- Indexed (purchasing power) bond – a bond that has interest payments based on an inflation index so as to protect the holder from inflation.
- Discount bond – a bond that sells below its par value; occurs whenever the going rate of interest rises above the coupon rate.
- Premium bond – a bond that sells above its par value; occurs whenever the going rate of interest falls below the coupon rate.
- Mortgage bond – a bond backed by fixed assets. First mortgage bonds are senior in priority to claim of second mortgage bonds.
- Debenture – a long-term bond that is not secured by a mortgage on specific property.
- Junk bond – a high-risk, high-yield bond.
- Investment grade bonds – bonds rated triple-B or higher; many banks and other institutional investors are permitted by law to hold only investment grade bonds.

