

# Module 1

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## FINANCIAL MANAGEMENT AND VALUE CREATION: AN OVERVIEW

# Background

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- One of financial management's most useful guiding principles
  - Managers should manage their firm's resources with the objective of increasing the firm's market value
- Main objective of the course
  - To present and explain the methods and tools that help managers determine whether the firm's current investments are creating value
    - If they are not then need to determine what remedial actions should be taken to improve operations
    - Course also shows how to determine whether a business proposal has the potential to raise the firm's value and how it should be financed

# Background

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- After reading this Module, students should understand:
  - The meaning of managing a business for value creation
  - How to measure the value that may be created by a business proposal, such as an investment project, a change in the firm's financial structure, a business acquisition, or the decision to invest in a foreign country
  - The significance of the firm's cost of capital and how it is measured
  - The function of financial markets as a source of corporate funds and the role they play in the value-creation process
  - A firm's business cycle and how it determines the firm's capacity to grow
  - The basic structure and the logic behind a firm's balance sheet, income statement and cash flow statement
  - Risk, how to measure it and how it affects the firm's cost of capital
  - The terms "market value added" and "economic value added" and how they relate to the goal of managing for value creation

# The Key Question: Will Your Decision Create Value?

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- A project is financed by either
  - Shareholders—provide equity capital
  - Debtholders—provide debt capital
- Firm's owners want to increase the firm's value
  - Thus, a project's expected return must exceed its financing cost
- Before deciding to go ahead with a business proposal, the manager should ask himself/herself the Key Question:
  - Will the proposal raise the firm's market value?
    - Key Question also applies to current operations

# The Importance Of Managing For Value Creation

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- The fundamental finance principle helps answer the Key Question
- Paramount objective of management should be the creation of value for the firm's owners
  - However, this does not mean the firm can neglect other stakeholders, such as employees customers or suppliers
    - Results of a survey show that the firms perceived to be highly valued with respect to management, employees and customers were value creators
      - While the lowest rated firms were value destroyers

# The Saturn Story

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## ■ Story of the Saturn

- In mid 1980s GM set up a company to build the Saturn
  - Workers were highly motivated
  - Customers were extremely satisfied
    - However, the Saturn project has not created value
      - How long should a firm fund a project that delights its customers, pleases its distributors, and satisfies its employees but fails to deliver value to its shareholders?

# The Fundamental Finance Principle

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## ■ Key Question

- Will the decision create value for the firm's owners?
  - Can be answered with the help of the fundamental finance principle:
    - A business proposal—such as a new investment, the acquisition of another company, or a restructuring plan
      - Will raise the firm's value only if the present value of the future stream of net cash benefits the proposal is expected to generate exceeds the initial cash outlay required to carry out the proposal

# Measuring Value Creation With Net Present Value

- Net Present Value concept or NPV
  - $NPV = - \text{Initial cash outlay} + \text{present value of future net cash benefits}$ 
    - Market value of firm should rise by
      - Amount equal to project's NPV on the day the project is announced
- A business proposal creates value if
  - Its net present value is positive
    - Value is destroyed if its net present value is negative



# Only Cash Matters

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- The fundamental finance principle
  - Requires that the investment as well as its future benefits be measured in cash
    - Investors have invested cash in the firm and are only interested in cash returns
    - Net profit represents an accounting measure, not a cash one

# EXHIBIT 1.1: Only Cash Matters to Investors.

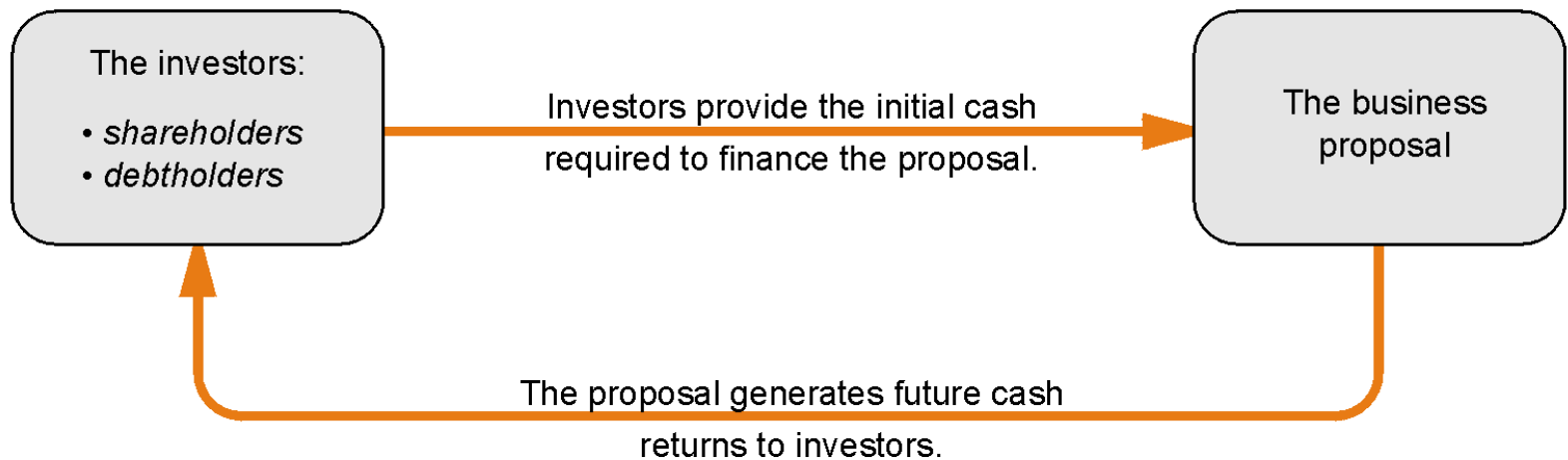


Exhibit 1.1 is an illustration of why investors are only interested in cash returns.

# Discount Rates

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- To estimate the net present value of a proposal
  - Must first discount its future cash-flow stream and then deduct from that present value the initial cash outlay
    - A proposal's appropriate discount rate is the cost of financing the proposal

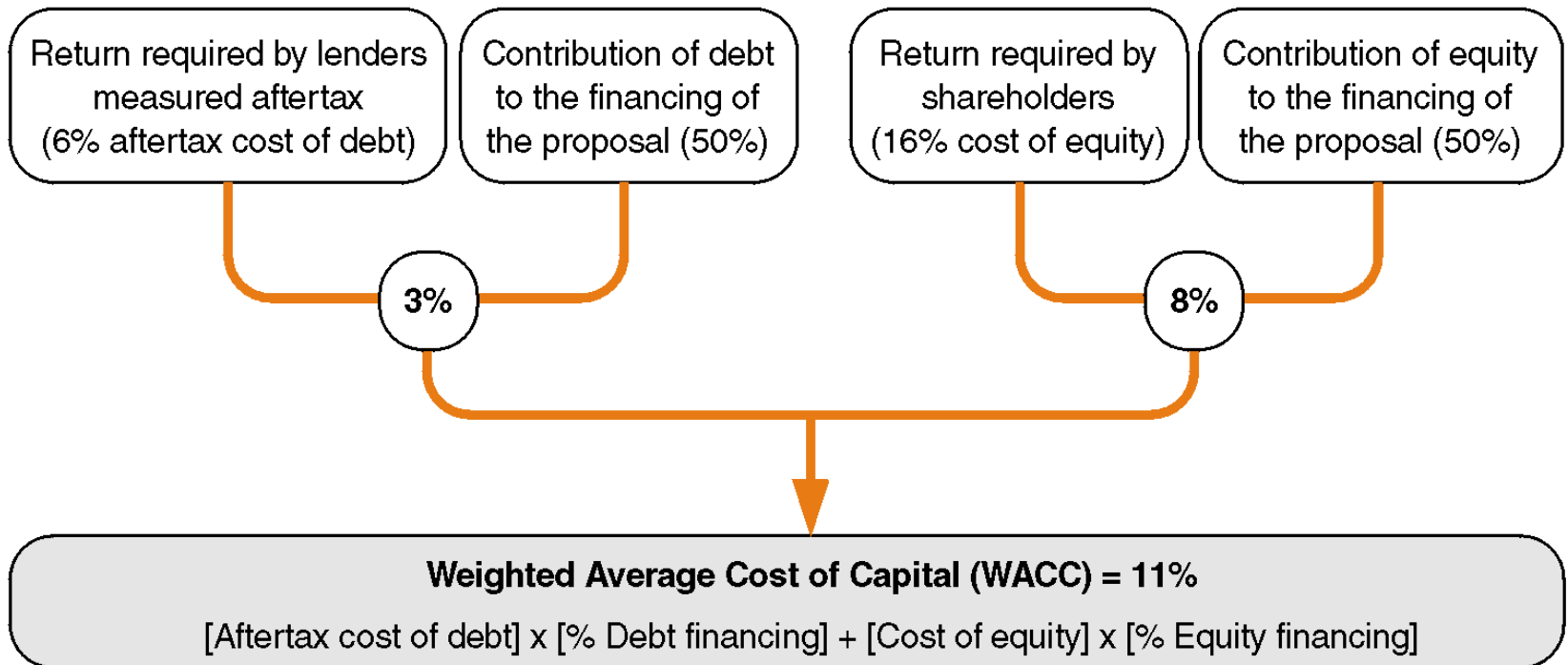
# A Proposal's Cost Of Capital

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- When a project is funded with both equity and debt
  - Cost of capital is not just the cost of equity
    - It is the weighted average cost of capital (WACC)
      - Both shareholders and debtholders require a return from their contribution
        - Debt is measured on an aftertax basis due to deductibility of interest expense

## EXHIBIT 1.2:

# The Cost of Financing a Business Proposal Is Its Weighted Average Cost of Capital.



# Applying The Fundamental Finance Principle

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- Textbook addresses the application of the fundamental finance principle for
  - Capital budgeting
  - Capital structure
  - Business acquisition
  - Foreign investment decisions

# The Capital Budgeting Decision

- Capital budgeting decision typically affects the firm's business performance for a long period of time
- Decision criteria used in capital budgeting are direct applications of the fundamental finance principle
  - The net present value (NPV) rule
    - A project should be undertaken if its net present value is positive and should be rejected if its net present value is negative
  - The internal rate of return (IRR) rule
    - To use the IRR rule to determine whether a project creates value, we must compare the project's IRR to its WACC
      - If  $IRR > WACC$ , project should be undertaken

# The Capital Budgeting Decision

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- Sources of value creation in a business proposal
  - Positive NPV projects and businesses are not easily discovered, but when found, they attract competitors into a market
    - To keep their profits from being reduced by competition, firms create costly entry barriers
      - Patents
      - Trademarks
      - Licenses, *etc.*



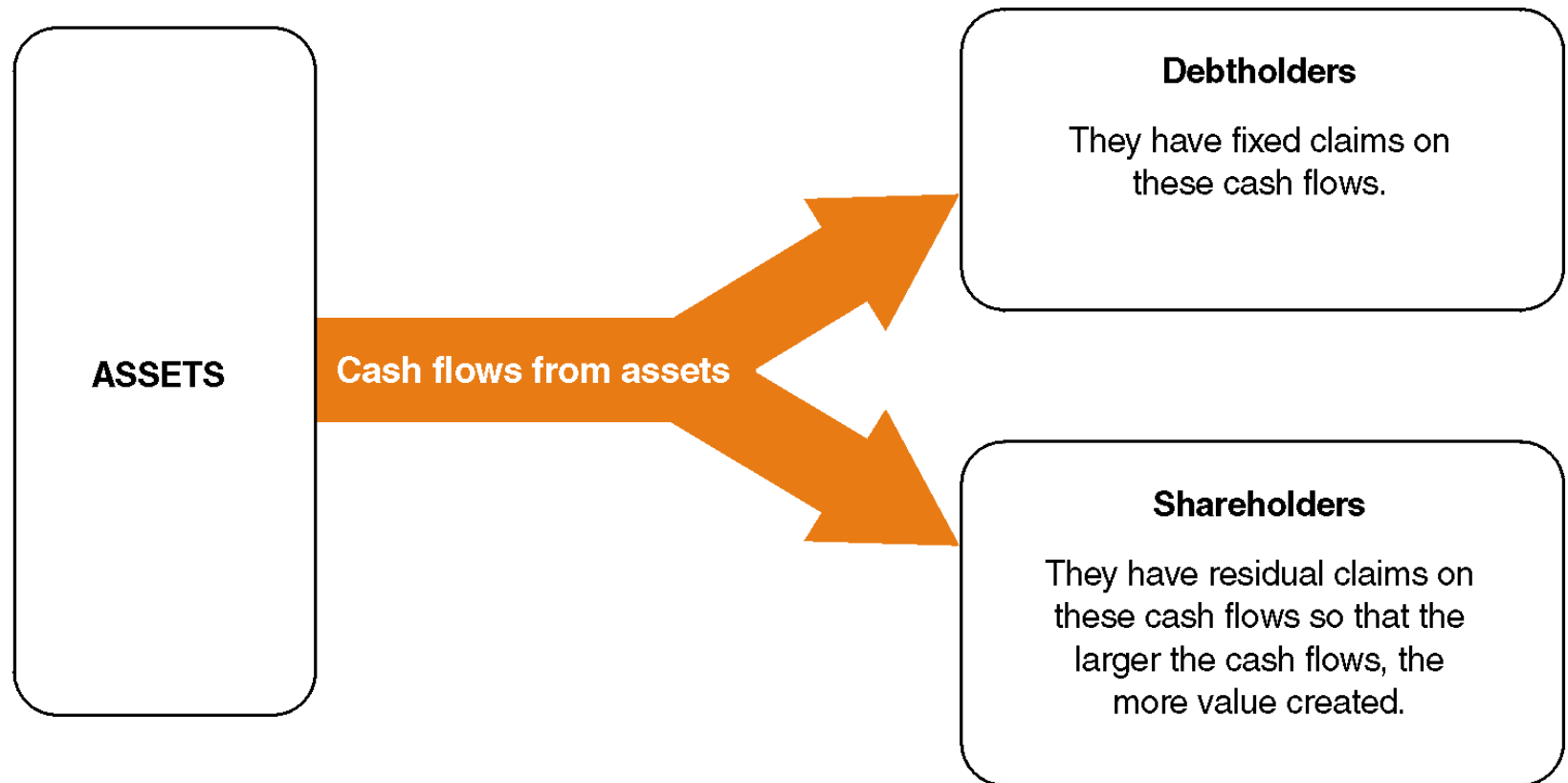
# The Capital Structure Decision

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- The firm's optimal capital structure is
  - One that provides the greatest increase in the present value of the cash flows from assets
- As the firm replaces equity with debt
  - Financial distress risk ensues
    - Risk firm may be unable to service its debt
  - Thus, debt financing involves a tradeoff between tax benefits and financial distress risk

## EXHIBIT 1.3:

**The Optimal Capital Structure Is the One that Provides the Greatest Increase in the Cash Flows from Assets.**



# The Business Acquisition Decision

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- Acquisition of a business is just another investment decision
  - Will only create value if present value of future net cash flows expected from target firm exceed price paid to acquire the firm
    - Pure conglomerate merger
      - Business to be acquired is unrelated to firm's current business
    - Synergies
      - Expected to raise sales or reduce costs beyond the sum of the two firms' pre-acquisition sales or costs

# The Foreign Investment Decision

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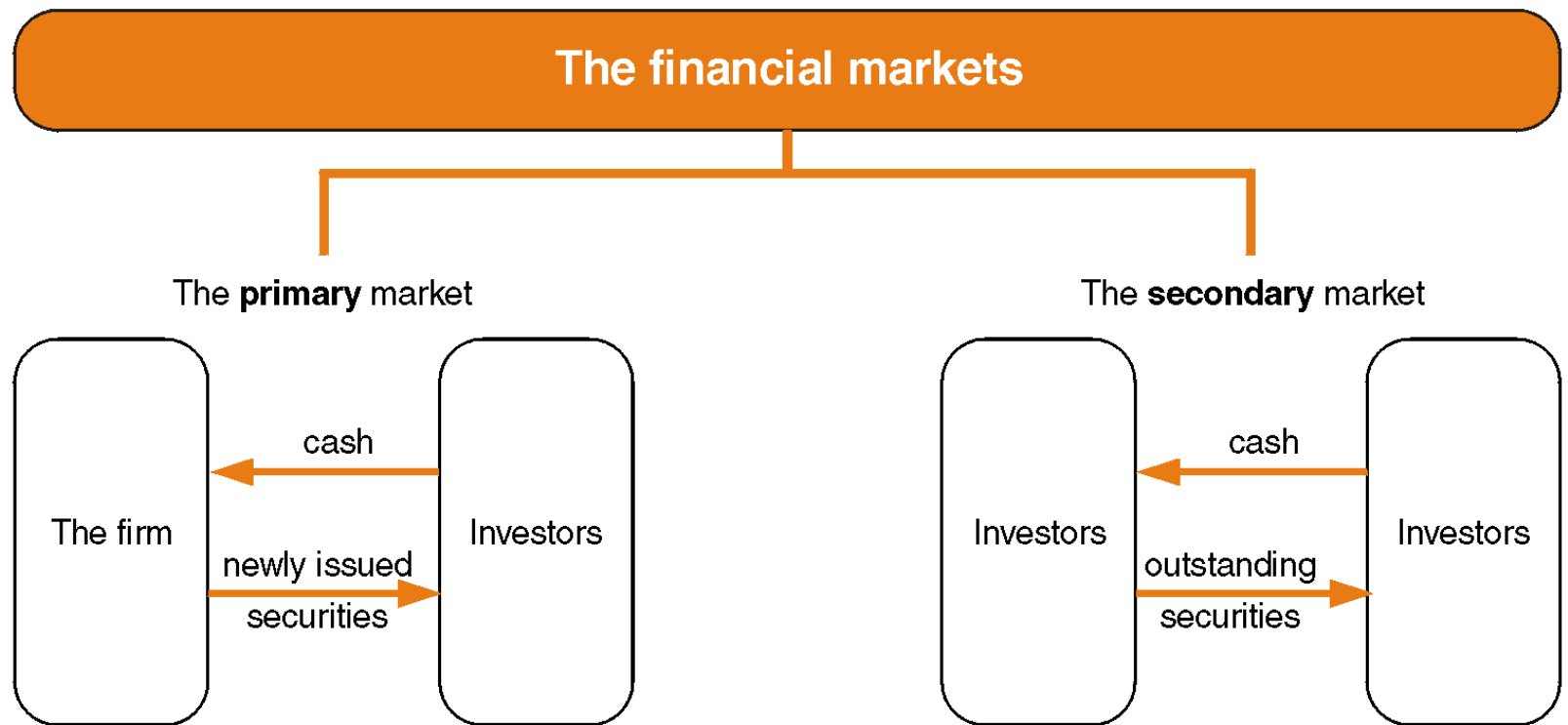
- Additional risks
  - Currency risk
    - Unanticipated changes in value of currency
  - Political risk
    - Unexpected events
- Instead of adjusting the cost of capital for the added risks
  - Project's future cash flows are modified

# The Role Of Financial Markets

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- Role of financial markets in value creation
  - Primary markets
    - Provide financing for funding growth
      - Act as intermediaries
  - Secondary markets
    - Provide efficient means for trading outstanding securities
- Role of investment (merchant) bankers

# EXHIBIT 1.4: The Dual Functions of Financial Markets.



# The Equity Market

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- Efficient equity market
  - Share prices adjust instantly to new, relevant information
    - Evidence indicates that on average most well-developed stock markets can be described as reasonably efficient equity markets

# What Is Bad For General Motors Is Good For Volkswagen ... And Vice Versa

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- Mr. Lopez was in charge of worldwide purchasing for General Motors
  - Managed to cut  $\approx$  \$1 billion off GM's annual costs
    - Valuable employee!
- In 1993 Volkswagen tried to hire him from GM
  - However GM offered him a raise and promotion so he stayed
    - Rumors on Wall Street spread stating that he was leaving GM for Volkswagen
      - GM's price dropped 4.4%
      - VW's price increased 1.8%
        - The continuing story shows more evidence of market reaction to news releases



# External Versus Internal Financing

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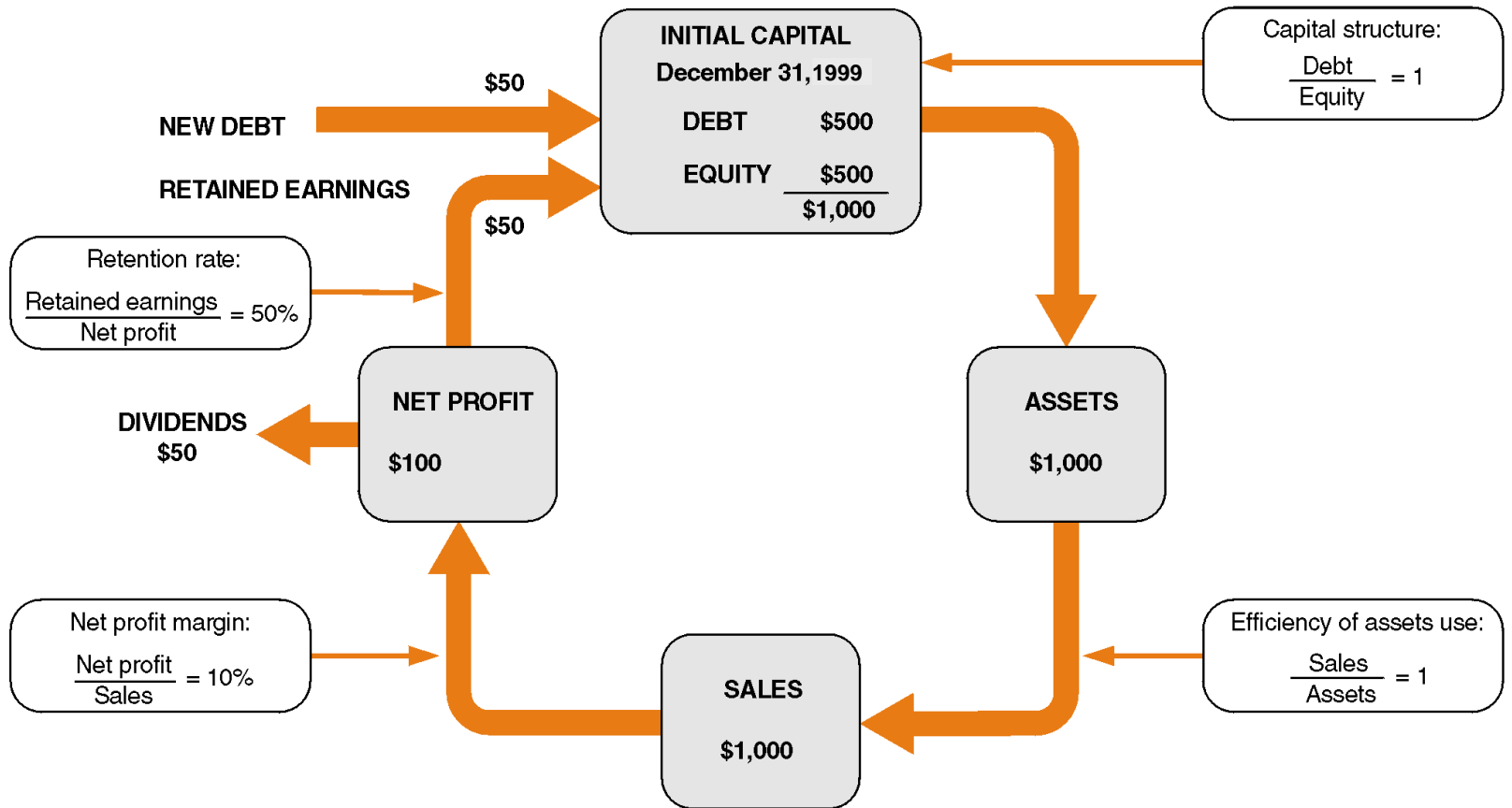
- Two ways to raise equity and debt capital are
  - External financing
    - Short-term
      - Money market
    - Long-term
      - Equity market
      - Bond market
  - Internal equity financing
    - Retained earnings
      - Companies retain their profits (partially or completely) because regular access to external equity financing is often unavailable or is relatively expensive

# The Business Cycle

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- Relationship between profit-retention and business growth form the concept of a "business cycle" which links a firm's:
  - Debt-to-equity ratio
  - Sales-to-asset ratio (also known as asset turns, asset rotation, asset turnover)
  - Net profit margin (net profit-to-sales ratio)
  - Retention rate

# EXHIBIT 1.6: HLC's Business Cycle.

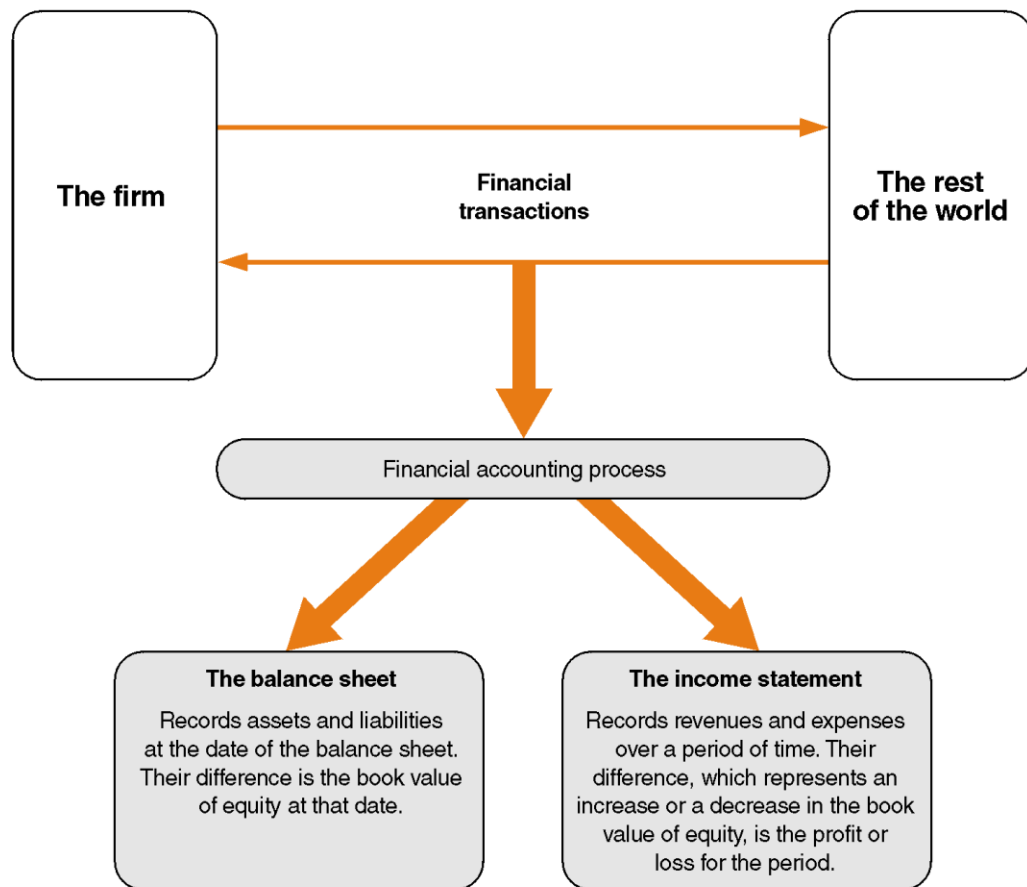


# The Business Cycle

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- The self-sustainable growth rate (SGR) is defined as
  - Fastest growth rate in sales that a company can achieve by retaining a certain percent of its profit and keeping both its operating and financing policies unchanged
    - Important indicator of business performance

# EXHIBIT 1.6: A Simplified View of the Financial Accounting Process.



# The Balance Sheet

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- Balance sheet shows
  - What a firm's shareholders own (assets)
  - What they owe (liabilities)
    - At a specific date
- Exhibit 1.7 shows a simplified balance sheet for Hologram Lighting Company (HLC)

# EXHIBIT 1.7:

## HLC's Balance Sheets

Figures in millions of dollars

### FROM HLC's STANDARD BALANCE SHEETS:

#### ASSETS

#### LIABILITIES AND OWNERS' EQUITY

	DECEMBER 31 1999	DECEMBER 31 2000		DECEMBER 31 1999	DECEMBER 31 2000
Cash	\$100	\$110	Short-term borrowing	\$200	\$220
Accounts receivable	150	165	Accounts payable	100	110
Inventories	250	275	Long-term debt	300	330
Net fixed assets	600	660	Owners' equity	500	550
<b>TOTAL</b>	<b>\$1,100</b>	<b>\$1,210</b>	<b>TOTAL</b>	<b>\$1,100</b>	<b>\$1,210</b>

# A Variant Of The Standard Balance Sheet: The Managerial Balance Sheet

- Managerial balance sheet presents information more in line with the traditional organization of a business
  - Accounts receivable, accounts payable and inventories are managed together
- Net investment required to operate firm's fixed assets
  - Accounts receivable and inventories must be financed
    - Financed in part through trade payables
      - Thus, the net investment in operations is trade receivables + inventories – trade payables (AKA: working capital requirement)
- Exhibit 1.8 presents HLC's managerial balance sheet



# EXHIBIT 1.8:

## HLC's Managerial Balance Sheets

Figures in millions of dollars

	INVESTED CAPITAL OR NET ASSETS		CAPITAL EMPLOYED		
	DECEMBER 31 1999	DECEMBER 31 2000	DECEMBER 31 1999	DECEMBER 31 2000	
Cash	\$100	\$110	Short-term debt	\$200	\$220
Working capital requirement (WCR) <sup>1</sup>	300	330	Long-term debt	300	330
Net fixed assets	600	660	Owners' equity	500	550
<b>TOTAL</b>	<b>\$1,000</b>	<b>\$1,100</b>	<b>TOTAL</b>	<b>\$1,000</b>	<b>\$1,100</b>

<sup>1</sup> Working capital requirement (WCR) = Accounts receivable + Inventories - Accounts payable

The upper part of [Exhibit 1.8](#) illustrates the managerial balance sheet approach, where the left-hand side (invested capital or net assets) reflects capital invested in cash, operations (WCR), and fixed assets, while the right-hand side (capital employed) represents the sources of capital used to fund the firm's net assets. This approach provides a clearer picture of the firm's investments and capital than a standard balance sheet (see Module 3 for further discussion).

# The Income Statement

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- Purpose
  - Provide an estimate of the change in the Course value of equity over a period of time
    - Net profit vs. net loss
      - Difference between revenues and expenses
- EBIT can be thought of in terms of its three categories of claimants
  - Debtholders (first claimants)
  - Tax authorities (second claimants)
  - Shareholders (residual claimants)

# EXHIBIT 1.9: HLC's 2000 Income Statement.

Figures in millions of dollars

<b>Sales</b>		<b>\$1,000</b>
Less operating expenses (including depreciation expenses)	<b>(\$760)</b>	
<b>Earnings before interest and tax (EBIT)</b>		<b>\$240</b>
Less interest expenses	<b>(40)</b>	
<b>Earnings before tax (EBT)</b>		<b>\$200</b>
Less tax expenses	<b>(100)</b>	
<b>Earnings after tax (EAT)</b>		<b>\$100</b>
Retained earnings = \$50		
Dividend payment = \$50		

# How Profitable Is A Firm?

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- Information from a firm's balance sheet and income statement can be combined
  - To analyze the firm's financial performance in terms of the profitability of its equity and of its invested capital

# The Profitability Of Equity Capital

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- A firm's profitability to its shareholders is measured by the owners' return on investment
  - Known as return on equity (ROE)

$$\text{ROE} = \frac{\text{Earnings aftertax (EAT)}}{\text{Owners' Equity}}$$

# The Profitability Of Invested Capital

- To measure the profitability of HLC's total capital (provided by both shareholders and debt-holders)
  - Must use the firm's aftertax operating profit
    - The resulting ratio is the firm's return on invested capital (ROIC)
      - Which is the same as return on net assets (RONA) or return on capital employed (ROCE)

$$\text{ROIC} = \frac{\text{Aftertax operating profit}}{\text{Invested capital}}$$

# How Much Cash Does A Firm Generate?

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- Expected cash flows are a key factor in deciding
  - Whether a project will create or destroy value
    - Thus, it is essential to measure cash flows generated by a firm's activities on a continuous basis
- A firm's EBIT or EAT does not represent cash
  - Need to know how much cash is behind EBIT and EAT
    - Start by examining balance sheet

# Sources And Uses Of Cash

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- Sources of cash
  - Operations—customers pay invoices
  - Investing—firm sells assets
  - Financing—firm borrows or issues new shares
- Uses of cash
  - Operations—pay its suppliers
  - Investing—capital expenditures
  - Financing—interest and dividend payments



# The Cash Flow Statement

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- Summarizes a firm's cash transactions
  - Breaks them down into three main corporate activities
    - Operations
    - Investments
    - Financing

## EXHIBIT 1.10a:

# HLC's 2000 Cash Flow Statement.

Figures in millions of dollars

### CASH FLOW FROM OPERATING ACTIVITIES

Sales	\$1,000	
Less operating expenses (which include depreciation expenses)	(760)	
Less tax expenses	(100)	
Plus depreciation expenses	60	
Less cash used to finance the growth of WCR	(30)	
<b>A. NET OPERATING CASH FLOW</b>		<b>\$170</b>

### CASH FLOW FROM INVESTING ACTIVITIES

Capital expenditures	(120)	
<b>B. NET CASH FLOW FROM INVESTING ACTIVITIES</b>		<b>(120)</b>

## EXHIBIT 1.10b:

# HLC's 2000 Cash Flow Statement.

Figures in millions of dollars

### CASH FLOWS FROM FINANCING ACTIVITIES

New borrowing	50
Interest payments	(40)
Dividend payments	(50)
<b>C. NET CASH FLOW FROM FINANCING ACTIVITIES</b>	<b>(40)</b>
<b>D. TOTAL NET CASH FLOW (A + B + C)</b>	<b>10</b>
<b>E. CASH HELD AT THE BEGINNING OF THE YEAR</b>	<b>\$100</b>
<b>F. CASH HELD AT THE END OF THE YEAR (E + D)</b>	<b>\$110</b>

# How Risky Is A Firm?

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- Firm's sales may fluctuate
  - Because of the uncertain economic, political, social, and competitive environments in which it operates
    - Creates economic risk, which is magnified by fixed operating expenses that produce operational risk
- Together these two risks compose business risk
  - Further magnified by fixed interest expenses reflecting financial risk
    - Business risk and financial risk together constitute the firm's total risk
- Since some of the firm's operating expenses are fixed, the uncertainty surrounding sales translates into operating profits that are more risky than sales
  - Because of fixed interest expenses, risk increases further, and as a result, net profits are even more risky than operating profits

# EXHIBIT 1.11:

## HLC Income Statement: Impact on EBIT, EBT, and EAT of a 10% Drop or Rise in Sales.

Figures in millions of dollars

	EXPECTED <sup>1</sup>	SALES DOWN 10%		SALES UP 10%	
<b>Sales</b>	<b>\$1,000</b>	<b>\$900</b>	<b>-10%</b>	<b>\$1,100</b>	<b>+10%</b>
Less variable operating expenses <sup>2</sup>	(380)	(342)	-10%	(418)	+10%
Less fixed operating expenses <sup>3</sup>	(380)	(380)	same	(380)	same
<b>EBIT (earnings before interest &amp; tax)</b>	<b>\$240</b>	<b>\$178</b>	<b>-26%</b>	<b>\$302</b>	<b>+26%</b>
Less fixed interest expenses	(40)	(40)	same	(40)	same
<b>EBT (earnings before tax)</b>	<b>\$200</b>	<b>\$138</b>	<b>-31%</b>	<b>\$262</b>	<b>+31%</b>
Less variable tax expenses (50%)	(100)	(69)	-31%	(131)	+31%
<b>EAT (earnings after tax)</b>	<b>\$100</b>	<b>\$69</b>	<b>-31%</b>	<b>\$131</b>	<b>+31%</b>

<sup>1</sup> The expected income statement is the same as the one shown in Exhibit 1.8.

<sup>2</sup> One half of total operating expenses of \$760 in Exhibit 1.8.

<sup>3</sup> One half of total operating expenses of \$760 in Exhibit 1.8. Note that the \$60 of depreciation expenses are fixed and, hence, included in the \$380 of fixed operating expenses.

Exhibit 1.11 provides a numerical illustration of the rise in the level of risk from sales to the bottom line.

# EXHIBIT 1.12: Sources of Risk that Increase Profit Volatility.

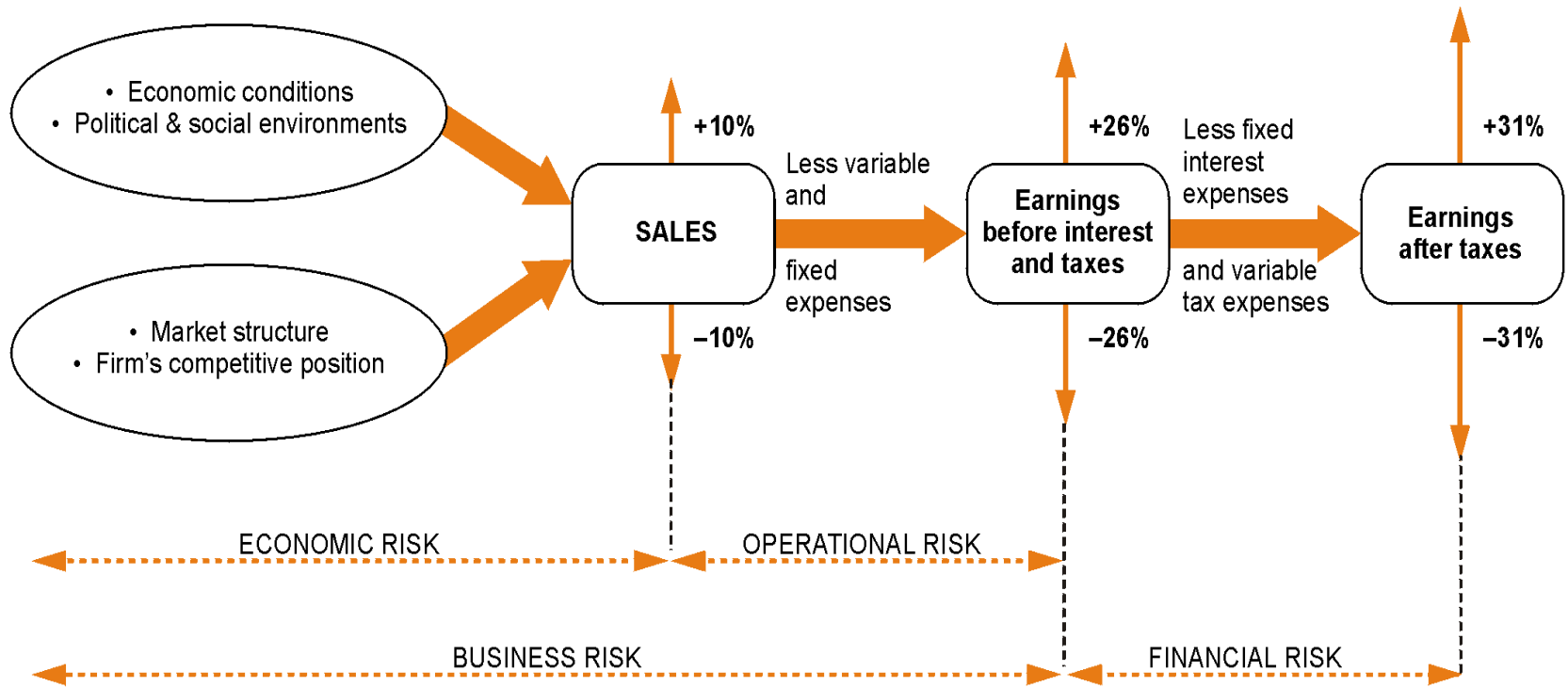


Exhibit 1.12 summarizes different types of risks and the numbers pertinent to the HLC example.

# Is Value Created?

- According to the fundamental finance principle
  - A firm is creating value if the NPV of all its investments (called market value added or MVA) is positive
    - A firm's MVA is positive if the market expects the firm to generate positive economic value added, or EVA, in the future
- A firm's EVA is equal to the aftertax operating profit (sometimes referred to as net operating profit after taxes or NOPAT) generated by the firm's net assets
  - Less the dollar cost of the capital employed to finance these assets
    - An alternative way of expressing EVA suggests that EVA will be positive (negative) if the firm's return on invested capital is higher (lower) than the cost of that capital measured by its WACC