Wrap-Up of the Financing Module

The Big Picture: Part I - Financing

A. Identifying Funding Needs
   - Feb 6       Case: Wilson Lumber 1
   - Feb 11      Case: Wilson Lumber 2

B. Optimal Capital Structure: The Basics
   - Feb 13      Lecture: Capital Structure 1
   - Feb 20      Lecture: Capital Structure 2
   - Feb 25      Case: UST Inc.
   - Feb 27      Case: Massey Ferguson

C. Optimal Capital Structure: Information and Agency
   - Mar 4       Lecture: Capital Structure 3
   - Mar 6       Case: MCI Communications
   - Mar 11      Financing Review
   - Mar 13      Case: Intel Corporation
Overview of Financing

Financial forecasting
• Short-term and medium-term forecasting.
• General dynamics: Sustainable growth.

Capital structure
• Describing a firm’s capital structure.
• Benchmark: MM irrelevance.
• Theory 1: Static Trade-Off Theory.
• Theory 2: Pecking Order Theory.
• Agency issues related to capital structure.

→ Pulling it all together.

Forecasting a Firm’s Funding Needs

• Question: Given a firm’s operations and the forecast thereof, how much funding will be required, and when?

• Requires short-run and long-run forecasting.

• Requires an assessment of a firm’s general dynamics:
  → The concept of sustainable growth.
  → Distinguish "cash cows" from “finance junkies".
General Dynamics

- **Sustainable Growth Rate:** \( g^* = (1-d) \times ROE \)

- Give a (very rough) measure of how fast you can grow assets without increasing your leverage ratio or issuing equity.

- Sustainable growth rate increases when
  - Dividends (d) decreases
  - Profit margins (NI/Sales) increases
  - Asset turnover (Sales/Assets) increases
  - Leverage (Assets/NW) increases

Key Points

- **Key Point 0:** The concept of sustainable growth does not tell you whether growing is good or not.

- **Key Point 1:** Sustainable growth is relevant only if you cannot or will not raise equity, and you cannot let D/E ratio increase.

- **Key Point 2:** Sustainable growth gives a quick idea of general dynamics: Cash cows (\( g << g^* \)) or Finance junkies (\( g >> g^* \)).

- **Key Point 3:** Financial and business strategies cannot be set independently.
Capital Structure: Theory and Practice

- Modigliani-Miller Theorem
  - Capital structure choices are irrelevant.

- Theory 1: Static Trade-off Theory
  - Tax shield vs. Expected distress costs

- Theory 2: Pecking Order Theory
  - Costs of asymmetric information.

- Agency Issues related to capital structure.

Modigliani-Miller Theorem

- **MM: In frictionless markets, financial policy is irrelevant.**
  - "Proof": Financial transactions are NPV=0. QED

- **Corollary**: All the following are irrelevant:
  - Capital structure
  - Long- vs. short-term debt
  - Dividend policy
  - Risk management
  - Etc.
Using MM Sensibly:

MM gives us a framework to understand why capital structure matters -> Changing the size of the pie.

When evaluating an argument in favor of a financial move:

- Ask yourself: Why is a financing argument wrong under MM?
  - Avoid fallacies such as mechanical effects on accounting measures (e.g., WACC fallacy, EPS fallacy)

- Ask yourself, what frictions does the argument rely on?
  - Taxes, Costs of financial distress, Information asymmetry, Agency problems.

- If none, dubious argument. If some, evaluate magnitude.

Theory 1: Static Trade-Off Theory

- The optimal target capital structure is determined by balancing
  
  Tax Shield of Debt vs. Expected Costs of Financial Distress

- Debt increases firm value by reducing the corporate tax bill.
  - This is because interest payments are tax deductible.
  - Personal taxes tend to reduce but not offset this effect.

- This is counterbalanced by the expected costs of financial distress:

  Expected costs of financial distress
  
  \[ \text{Expected costs of financial distress} = \text{(Probability of Distress)} \ast \text{(Costs if actually in distress)} \]
Checklist for Target Capital Structure

**Tax Shield:**
- Would the firm benefit from debt tax shield? Is it profitable?
- Does it have tax credits?

**Expected distress costs:**
- Are cash flows volatile?
- Need for external funds for investment?
- Competitive threat if pinched for cash?
- Customers and suppliers care about distress?
- Are assets easy to re-deploy?

**Note:** Hard to renegotiate debt structure increases distress costs (Recall Massey’s complex debt structure).

---

**Theory 2: Pecking Order**

- The Pecking Order Theory states that firms make financing choices with the goal to minimize the losses from raising funds under asymmetric information.

- With information asymmetries between firms and markets:
  - External finance is more costly than internal funds.
  - Debt is less costly than equity (because less info-sensitive).

- This implies that firms:
  - Preferably use retained earnings,
  - Then borrow from debt market,
  - As a last resort, issue equity.
Implications for Investment

• The value of a project depends on how it is financed.
  → Value = NPV of project – loss from financing

• Some projects will be undertaken only if funded internally or with relatively safe debt but not if financed with risky debt or equity.

• Companies with less cash and more leverage will be more prone to under-invest.

• Rationale for hoarding cash.

Agency Problems and Capital Structure

• Modigliani-Miller assumes that the real investment policy of a firm does not change as a function of capital structure.

• But: Managers’ incentives and hence their behavior may change with the capital structure of the firm.

• Managers and stockholders incentives do not always coincide. These conflicts are called agency problems

• Agency problems in the firm:
  → We have Principals = Shareholders
  → We have Agents = Managers
Conflicts between managers and investors:
Principal-Agent Problems

- Potential problems include:
  - Reduced Effort
  - Perks
  - Empire Building

- There are also conflicts between Bondholders and Shareholders

- **Question:**
  - Can Leverage help to avoid agency costs?
  - Can Leverage give managers incentives to make value-maximizing decisions?

Some classic principal-agent problem:

**The Free Cash Flow Problem:**
- Managers in firms with lots of free cash flow (cash cows) and bad investment opportunities may be reluctant to simply give the excess cash back to shareholders.
  
  ⇒ **Having debt puts free cash flows to use, and reduces managers ability to squander funds on pet projects and empire building.**

**The Lazy Managers Problem:**
- Managers in stable firms with lots of free cash flow and without much product market competition may become lazy and complacent.
  
  ⇒ **Raising leverage (a lot) puts pressure on managers to perform and to make operations more efficient.**
Can leverage create agency costs?

(Excessive) Leverage can create agency conflicts between equity holders (managers) and creditors (bond holders):

- **Looting the firm in financial distress**
  → Firms have incentives to loot the company prior to bankruptcy
  → Drexel paid $350M in bonuses three weeks before it filed Chapter 11

- **Delayed liquidation**
  → Firms have incentives to delay liquidation even if immediate liquidation is efficient.
  → Liquidation usually only helps creditors, not shareholders or managers.

- **Claim Dilution**
  → Firms have incentives to surprise existing creditors by borrowing more.

- **Risk shifting (asset substitution):**
  → Managers may decide to increase the risk of the firm after they have borrowed.

All these costs are anticipated by creditors and hence raise the cost of borrowing.

Take Away: Agency Problems and Capital Structure

- **Leverage can help to overcome certain agency problems:**
  → The free cash flow problem.
  → Complacent, lazy managers.
  → ....

- **Excessive leverage can create other agency problems:**
  → These tend to kick in in actual financial distress, hence can be regarded as additional costs of distress.
  → Clever usage of covenants can eliminate many of these problems.
Thinking about Capital Structure: An Extended Checklist

- **Taxes**
  - Does the company benefit from debt tax shield?

- **Information Problems**
  - Do outside investors understand the funding needs of the firm?
  - Would an equity issue be perceived as bad news by the market?

- **Agency Problems**
  - Does the firm have a free cash flow problem?
  - Do the managers need additional motivation and monitoring?

- **Expected Distress Costs**
  - What is the probability of distress? (Cash flow volatility)
  - What are the costs of distress?
    - Need for external funds for investment, competitive threat if pinched for cash, customers care about distress, assets difficult to redeploy?
    - Managerial misbehavior in distress?

Conclusion

- The bulk of the value is created on the LHS by making good investment decisions.

- You can destroy much value by mismanaging your RHS: Financial policy should be supporting your business strategy.

- You cannot make sound financial decisions without knowing the implications for the business.

- Finance is too serious to leave it to finance people.