### Appendix K: Life Cycle of Capital Structure

### VII: Life Cycle of Capital Structure

**Startup Phase**
- Major Debt resources as part of overall funding:
  - Commercial Banks ~ 16%
  - Trade Credits ~ 13.5%
  - Finance Companies ~ 8%
  - Principal Owner ~ 6%

**Growth Phase**
- Major Debt resources:
  - Commercial Banks ~ 31%
  - Trade Credit ~ 13.5%
  - Principal Owner ~ 6%
  - Other Individuals ~ 3.3%
• Although it is usually hard for internet firms to use debt financing, TWIT has its unique advantage of using TW’s credibility and cash flows as collateral at the beginning.

• These were all static models
• But the appropriate capital structure changes over a firm’s lifetime
• Financial needs depend on a variety of cycles

Life-Cycle of the Business
– It is vital to condition the financial plan of the business based on its stage of maturity.
– High-risk start-up businesses should have low-debt financial strategies.
– Mature stages with lower risk and more stable cash flows can afford more aggressive debt load.

Changing financial needs of a firm
• Affected by Cycles of
  1. The economy
  2. The operation
  3. The product
  4. The firm
1. Macro Economic Cycle
   - The general business cycle, or the cycle in an industry, affects the need for current funds.
   - It also affects riskiness, cost and availability of funding.

2. Operating Cycle
   - The time interval between the beginning of outlay and the date when cash is collected from sales
   - Verizon: $20 Bil fiber upgrade, 2004-7, very little revenue before 2007
     - Typical film: $100 Mil before theatrical release

3. Product Life Cycle

4. Life Cycle of the Business Capital Structure

- Capital structures of funding of successful companies shows a common pattern
- Corresponds to the corporate life-cycle.

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**Corporate Life Cycle**

- Start-up Phase
- Growth Phase
- Maturity Phase
- Decline Phase

**Financing & The Stages of Maturity**

- 1) Start-up phase
  - Little debt
  - Plenty of risk already, no reason to add more risk with leveraging
  - Little taxable income, tax shield irrelevant

2) Growth Phase
- Adds debt as output expands
- Company still risky, debt still kept low
- Tax shield may still have little value


3) Maturity
- Tax shield benefits rise
- Less profitable NPV projects
- Distributes cash to shareholders
- Increasing proportion of capital structure in form of debt


4) Decline
- Must incur substantial debt
- Creditors bear risk of default
- Harder to obtain loans


• the most important financial characteristic of small business finance is informational opacity.

Information Opacity & Capital Structure

- Informational opacity favors using internal or insider funds.
- These individuals have thorough information about the firm.

Lack of Information

- Small businesses initially lack audited financial statements, collateral worthy assets, repayment history.
- Lack traded securities that are continuously evaluated in the market.

Public stock and public bond markets fund relatively informationally transparent large businesses under contracts that are more often relatively generic.

Smaller/younger/more opaque firms lie near the left end of the continuum they must rely on initial insider finance, trade credit, or angel finances.

References:
• As firms grow, they gain access to intermediated finance on the equity side (venture capital) and on the debt side (banks, finance companies, etc.).

• If the firms remain in existence and continue to grow, they may gain access to public equity and debt markets.

• Venture capital would typically come later, after the product has been successfully test-marketed, to finance full-scale marketing and production.

• Debt typically not available to small businesses until they achieve a level of production where their balance sheets reflect substantial tangible business assets that might be pledged as collateral, such as accounts receivable, inventory, and equipment.
• Private equity is often sought by a company at the start-up phase of its growth cycle.
• The private equity market is one of the fastest growing capital markets for corporate finance.

Differences Between Small Business Finance and Large Business Finance
• Public equity and public debt requires costly underwriting, due diligence, distribution, and securities registration.
• Many of these costs are essentially fixed and create economies of scale in issue size.

Studies show:
• External finance exceeds insider finance at start-up.
• External finance declines as a proportion of total finance over the first 7-8 years of a business’ life cycle, then increases again.

• funds provided by the principal owner (equity plus debt) increase substantially as firms move into the middle age and old categories, from about 25% of funding to about 40%.
• One reason may be the accumulation of retained earnings

- The principal owner may also use some of the retained earnings to buy out some of the other insider owners and insider debt.
- Debt declines as the firm matures and retires these insider loans that were needed in the early stages.

Most small business loans are personally guaranteed by insiders.
- Personal assets of the insiders are also explicitly pledged as collateral to back the loans.
- But, distinction “insider” and “debt” financing early stage is not bright. “Intertwining.”

Small businesses are often organized as proprietorships and partnerships not protected by limited liability that govern corporations, and may have their personal wealth at stake.

- Small businesses in high-growth, high-risk sectors more often obtain external equity investments from angels and venture capitalists.
- Whereas firms with steadier income flows more often obtain external debt finance from banks and other financial institutions.

• if the firms remain in existence and continue to grow, they may gain access to public equity and debt markets.

• Debt typically not available to small businesses until they achieve a level of production where their balance sheets reflect substantial tangible business assets that might be pledged as collateral, such as accounts receivable, inventory, and equipment.


• The choice of a target debt-to-capital ratio is only the first step in corporate financial leverage optimization.

• Highly profitable firms with limited investment opportunities have lots of cash, less need for debt, and therefore lower debt ratios.

• Need to consider assets and revenues and near and long-term business plans

• Firms whose investment opportunities exceed internally generated funds borrow more, and thus have higher debt ratios.

• For mature firms, debt is viewed as an ongoing component of the capital structure, providing desirable tax benefits without impairing the credit risk of the firm.

• As debt matures or is called in, it is rolled over and refinanced at market rates.


TWIT and Life Cycle Financing

• **If TWIT were an independent start up**, it would not be able to float debt.
  –Would add additional risk on top of existing uncertainty.

TWIT Capital Structure Life Cycle

• Better strategy would be to turn to private equity and VC firms, most likely through limited partnerships
• During the growth stage, it would take on S.T. debt
• Then, finance expansion by equity and public debt.

• As TWIT becomes matures
  – Distribute excess cash to shareholders as dividends and share repurchases
  – Capital structure now favors L.T. debt, which benefits from tax deductibility from income