Financing Media, Information, and Communication

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6.1 Introduction

In this chapter, we discuss how media and information sector firms can fund their activities. We will review financing alternatives and see how they are applied in the media and technology sectors.

We will also ask how the various funding types affect

- the structure of companies and industries;
- content and innovation;
- companies' activities.

6.1.1 The Finance Function in Companies

Within a company the finance function is usually managed by the chief financial officer (CFO). Reporting to the CFO are typically a treasurer and a controller (Fig. 6.1).

The controller handles the accounting function. This includes taxes, cost/financial accounting, and information systems. The treasurer handles cash flows, implements capital expenditure decisions, and makes financial plans. The CFO is in overall charge of raising the funds to carry out business operations, and the amount, source, and type of financing, also conducting financial analyses of the firm's performance. The CFO takes responsibility for the company's primary financial statements—the balance sheet, the income statement, and the statement of cash flows. Publicly traded companies are required to issue financial statements periodically and also to disclose major ownership changes and any insider transactions. In the USA, the legal responsibility of CFOs significantly increased following several financial scandals after the year 2000, in particular the collapse of the energy and commodities company Enron.

6.1.2 Key Questions of Corporate Finance

Optimal financial management is numbers oriented and draws significantly from a body of academic analysis called finance theory. Corporate finance theory is the study of financial decisions made by firms.

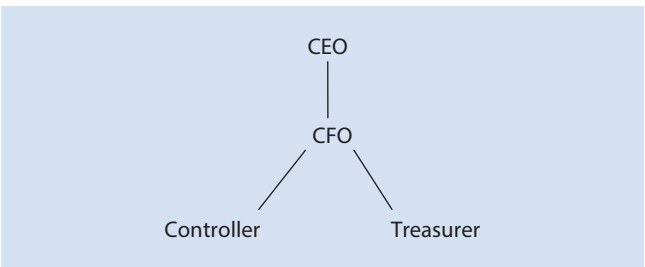


Fig. 6.1 Corporate organizational chart

It addresses questions such as these[1]:

- How much debt should a firm take? (Capital structure).
- How much short-term cash flow does a company need to pay its bills? (Optimal liquidity).
- What is a company's optimal mix of long-term versus short-term debt? (Term structure).
- How does a firm spend its cash and financial assets? (Investment policy).
- How does a firm obtain funds (debt and equity) and dispose of excess cash? (Financial policy).
- How does a firm distribute its earnings? (Payout policy).
- Which projects should a firm select for investments? (Capital budgeting).
- How can a firm reduce its risk exposure? (Risk management).

Financial management is not just about money. The question is whether the different ways in which firms get financed also affect the type of content that gets produced and distributed, and the nature of innovation. What would finance theory suggest about the impact of different financing types? In 1958, the finance professors Merton Miller and Franco Modigliani—both subsequent Nobel Prize winners—postulated a theorem that has become a major concept in finance theory. According to Miller and Modigliani, the value of firms is unaffected by their funding choices such as debt, equity, or private investment. The value of a company is based on its performance, not on funding types. The conduct and behavior of a firm are aimed at maximizing value, and are independent of its funding sources or styles. Applied to a media and communications firm, this would mean that its production or marketing decisions would not be affected by its funding. Miller and Modigliani's conclusion is based on several unrealistic assumptions.[2] But is the basic point plausible, that content and innovation are independent of a media organization's financings? We will keep returning to that question.

6.1.3 Basic Factors in the Finance of Media and Communications

We have earlier identified 12 factors of the media and information industries which, in combination, make their management different from that of other activities. Most of these factors affect financing.

The high fixed costs of many media and communications projects often force media companies to make large early

1 Ross, Stephen, Randolph Westerfield, and Jeffrey Jaffe. *Corporate Finance*. (New York: McGraw-Hill, 2002), 2; Ozanich, Gary W. "Media Finance and Valuation." In *Handbook of Media Management and Economics*. Eds. Alan B. Albarran, Sylvia M. Chan-Olmsted, and Michael O. Wirth. New York: Lawrence Erlbaum Associates, 2006.

2 These include an efficient financial market, no taxes, symmetric information, and no bankruptcy costs.

investments far ahead of the collection of revenues. To bridge that gap they must often borrow large amounts. Investment needs in media products, platforms, and devices are high and keep increasing. Investments in the USA in 2014 for wireline infrastructure, including for the backhaul of mobile, were $30 billion, and for wireless $17 billion. US cable television companies, 2015 investments in infrastructure were $13 billion.[3] The two major telecom companies AT&T and Verizon are spending about $17–20 billion on their networks.[4] For several years, Verizon's capex was the highest of all US firms and among the world's highest for any private company. To get a sense of the magnitude required: the cost of full residential fiber connection for the USA would be about $500 billion. Similarly, a broadband wireless infrastructure that would cover most of the population is estimated to require about $100 billion per network company for nationwide coverage, and about $500 billion total for the entire mobile industry.

Deutsche Telekom invested more than $14.6 billion in 2015 in fixed and mobile infrastructures. France Télécom/Orange invested $21.2 billion. Between 1997–2001, over $4 trillion were invested in European and US telecom ventures and firms, traditional and new.[5]

Similarly, the production of premium media content is often expensive. It often requires over $100 million to make and market a Hollywood movie.[6] Films are perishable, with a short window of revenue generation, yet delayed in the collection of revenues. In network television, average production cost for a primetime network show rose from $200,000 in 1971 to $1 million in 1991, $1.9 million in 2008, and $3 million in 2017. The average preopening budget for a musical on Broadway was $10 million and for a play about $4 million. Even "Off-Broadway" theater required $2 million for a commercial and $300,000 for a non-profit production.[7] (These figures were about two to three times higher than they had been in 2002). In the aggregate, annual US investment in content media are about $25 billion in film, $25 billion in TV and cable programs, $5 billion in games, and $3 billion in music. In 2010, the UK television channels spent $8.5 billion on content.[8]

These high fixed costs, in combination with low marginal costs and network effects, also create major economies of scale, barriers to entry, and oligopolistic markets.

On top of this, investments are highly risky. Of all films, books, and music, 80% do not generate enough of an audience to become profitable. Most new commercial online sites fail to make money. Two-thirds of new magazines fail in the first year. The distribution of success is extremely skewed. Success payoff is very high for a few products and low or negative for the rest. Risk is also increased by the long lag between a project's inception and its transformation into a revenue stream, as well as due to the excess supply of products relative to demand, and by the price deflation toward low marginal costs. For investors, the prevalence of intellectual assets among overall assets means that the value of collateral is low.

6.1.4 Case Discussion

Time Warner Versus Start-Up Entrant

The company Time Warner Media, acquired in 2018 by AT&T, is looking into the possibility of starting a new Internet television project. It is named Time Warner Internet Television (TWIT). The capital costs of the TWIT project will be $1 billion: $300 million to support the upgrade of its network distribution infrastructure, $200 million for upfront marketing and administrative costs, $100 million software development costs, and $400 million for content production.

With all of these expenditures, the company must ask itself if this is a worthwhile investment. And how is it going to fund it? Even if it has enough cash on hand, this does not mean that it should spend it on the new project, just as a family buying a home will in most cases not fully deplete its liquid assets and instead will take a mortgage. Time Warner must consider, at the very least, how its actions regarding TWIT will affect its profitability, share price, debt repayment burden, and how much control it is willing to give up.

An alternate (and entirely hypothetical) entrant contemplating a foray into internet TV is a company called Start-up New-Generation Internet Television (SNIT). SNIT's founders have estimated its initial capital costs to be $100 million, one-tenth of the better-established TWIT, and with the same proportions for the major components of the project as they are projected for TWIT.

3 Statista. "Total capital expenditure for major cable service providers in the United States from 2008 to 2015 (in billion U.S. dollars)." Last accessed May 15, 2017. ► https://www.statista.com/statistics/209148/total-capital-expenditures-of-major-cable-service-providers-since-2008/.

4 Atkinson, Robert C. and Ivy E. Schultz. *Broadband in America, Where It Is and Where It Is Going*. New York: Columbia Institute for Tele-Information, 2009; AT&T. AT&T Inc. 2016 annual report. February 17, 2017. Last accessed May 16, 2017. ► https://www.att.com/Investor/ATT_Annual/2016/downloads/att_ar2016_completeannualreport.pdf; Verizon. Verizon 2016 Annual Report. Last accessed May 16, 2017. ► http://www.verizon.com/about/sites/default/files/annual_reports/2016/downloads/Verizon-AnnualReport2016.pdf.

5 This figure covers not only infrastructure but all telecom investments, including start-ups that did not succeed and corporate acquisitions.

6 A typical theatrical film in Europe cost €11 million to produce. European Commission. "New European film strategy aims to boost cultural diversity and competitiveness in digital era." May 15, 2014. Last accessed May 16, 2017. ► http://europa.eu/rapid/press-release_IP-14-560_en.htm.

7 Janeway, Michael and András Szántó, eds. *Wonderful Town: The Future of Theater in New York*. New York: National Arts Journalism Program, Columbia University, 2002; Rubino-Finn, Olivia. "Broadway Budgets 101: Breaking Down the Production Budget." *New Musical Theatre*. January 22, 2016. Last accessed May 16, 2017. ► http://newmusicaltheatre.com/greenroom/2016/01/broadway-budgets-101-breaking-down-the-production-budget/.

8 Ofcom. "Communications Market Report: UK." August 4, 2011. Last accessed October 27, 2011. ► http://stakeholders.ofcom.org.uk/binaries/research/cmr/cmr11/UK_CMR_2011_FINAL.pdf.

6.1.5 An Overview of Funding Sources

We will now look at how the different sources of financing are used by media and how they affect them. What are generally the funding sources for a business? They are, in particular:

- the creator/entrepreneur personally;
- family and friends;
- retained earnings of the company:
- banks and other lenders;
- private investors;
- vendors and buyers;
- institutional investors (mutual and pension funds, insurance companies, private equity (PE) funds, etc.);
- governments.

Within each category, there are multiple varieties. Often a mix of several funding sources will be put together as a package.

The funding mix keeps changing. Take the financing of Hollywood film, which has gone through cycles. In the "Golden Age" of film in the 1930s and 1940s the studios themselves typically financed movies, out of their own money. In the early 1980s public equity (i.e. the issuance of stock for new film production companies with a set of projects) became popular, and enabled the new studios Cannon and Carolco to establish themselves. When these companies went bust, investors soured on this type of financing. Next came a wave of Japanese direct financing in the 1980s. Matsushita acquired Universal, and Sony acquired Columbia, and both pumped money into these studios. Then Japan's economy slowed and that wave of funding source ended. In the 1990s, there was a foreign bank funding phase through institutions such as Credit Lyonnais, the state-owned and largest bank of France. This financed independent producers, many of whom went bankrupt. After losing $5 billion on film deals, mostly in Hollywood, as well as other loans, Credit Lyonnais had to be bailed out by the government—but eventually went under.

This phase was followed by an insurance-backed financing wave that crashed in 2000. Then came a German limited partnership financing phase in the 1990s until tax laws were changed in 2001.[9] And in the 2000s, Middle Eastern sovereign funding started to emerge as funding sources.[10] For example, in 2008 Abu Dhabi set up a fund with over $1 billion to support film productions and digital content.[11] A spinoff subsidiary of Qatar-controlled Al-Jazeera bought the Miramax studio in 2016. China may be next. And then, there are the online giants Google, Amazon, and Netflix with their insatiable need for content.

An example for the mix of financing sources is the film *Laws of Attraction*, a 2004 romantic comedy starring Pierce Brosnan and Julianne Moore as two divorce lawyers who accidentally get married. The film's production budget was $28 million. Marketing and so on added $17 million, for a total of $45 million in cost. On the income side, worldwide box office gross was $30 million, with a US domestic share of $17.9 million and international $12.1 million. The net of the share of theaters was $15 million. Therefore, the film was $30 million in deficit before revenues from home video, VOD, pay-TV, and other streams.

The $45 million overall budget was raised in the following way:

- 32% foreign presales to international distributors and pay-TV operators;
- 20% US domestic distribution deal with New Line;
- 15% German tax fund;
- 15% UK sale-and leaseback;
- 8% Irish tax incentives;
- 10% equity, in other words direct investment by the principals.

The German and UK funding components are tax shelter deals for rich investors. The Irish funding is based on some of the production taking place in Ireland, and was possibly available because of Brosnan's nationality and stature.

Finding is thus assembled in often complex packages from various sources, and these sources keep changing. Similar volatilities exist in the financing of several other media and information industries and media technology ventures. The upshot is that rarely is there a routine transaction, and that financing a media project may sometimes be its most creative aspect. We will now look at how the different sources of financing are used by media and the effects they have.

6.2 Internal Funding

6.2.1 Self-Financing

The first and most obvious source of funding is the company itself, or the owners and entrepreneurs who start it, as well as their family members and friends. Why not go instead to the bank for a loan? Because new businesses initially lack just about everything that a bank looks for in assessing and reducing risk: a record as an operating entity, audited financial statements, assets that can be used as collateral, a repayment history, or traded securities that are continuously evaluated in the market. This makes it difficult to obtain debt financing in the early stages of a business. The alternative for a start-up is self-financing. Of all funding for small businesses, 31% came from the principal owner.[12] A survey of the 500 fastest growing US companies (by *Inc.* magazine) shows that a quarter of them started with an initial investment of less than $5000, half with less than $25,000, and three-quarters with less than $100,000. Fewer than 5% required more than

9 Moore, Schuyler. "The Next Wave of Film Financing: German Tax Shelter Funds." *AllBusiness*. July 30, 2001. Last accessed September 28, 2011. ► http://www.allbusiness.com/personal-finance/individual-taxes-tax-exemptions/801082-1.html.

10 Jaafar, Ali. "Oil Gives Way to Film in Middle East." *Variety*. March 10, 2010. Last accessed July 9, 2012. ► http://www.variety.com/article/VR1118016308.html?categoryid=3217&cs=1&nid=2562.

11 Hussain, Aabid. "$1 Billion Being Invested by Abu Dhabi for Hollywood Project." *Top News*. September 6, 2008. Last accessed July 9, 2012. ► http://topnews.ae/content/211-1-billion-being-invested-abu-dhabi-hollywood-project; Albawaba. "Record number of films seek grants from Abu Dhabi film fund." July 20, 2015. Last accessed May 16, 2017. ► http://www.albawaba.com/entertainment/record-number-films-seek-grants-abu-dhabi-film-fund-721018.

12 Berger, Allen N. and Gregory F. Udell. "The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle." *Journal of Banking and Finance* 22, no. 6–8 (1998): 613–673.

$1 million in capital.[13] Almost 80% of the *Inc.* 500 companies relied on personal resources as a financial basis for starting. These included:

- personal savings;
- severance packages;
- bank overdrafts;
- credit cards;
- pension plans;
- mortgage on residence;
- sale of personal assets;
- freeing up capital from other available sources.

Friends and family will often play an important role. When Bill Gates started Microsoft with Paul Allen, his well-to-do parents contributed money to the fledgling firm. But when seeking help from friends and family one must be mindful of several problems:[14]

- It puts pressure on the relationship and often changes its nature. An entrepreneur who brings in friends as investors must be prepared to lose some of them when things go wrong.
- It affects the entrepreneur's peace of mind: It is one thing to default on a bank loan, and another to burn through grandma's retirement nest egg.
- Family members and friends often feel free to meddle in the running of the business, and it is hard to maintain an arm's-length relationship.
- There has to be a clear exit strategy for such investors/friends.
- It deters outside investment. The presence of active relatives/insiders can dissuade professional investors from participating.

On the other end of the spectrum of business size, internal funding can also make sense for very large firms. The resources come from past capital injections or from earnings which were not returned to shareholders as dividends but were retained for new investments.[15] Some firms have accumulated vast reserves and can fund virtually every prospect on their own. In 2018, Microsoft had cash holdings of $146 billion. Google held more than $62 billion of its assets in investment securities, which meant it faced the problem of being treated like an investment fund under American law.[16] This money could be used for investments, acquisitions, and diversifications or paid back to shareholders. However, most serious investors would not want Google or Microsoft to buy outside assets and diversify just to reduce their cash holdings. Professional investors such as mutual funds and PE funds believe that they themselves can pick more effectively the kind of diversified portfolio that best fits their needs. Institutional and ordinary investors want overcapitalized corporations to instead pay higher dividends or buy back shares and raise their price. They also fear a less stringent assessment of internally funded projects, at times based on internal corporate politics, in contrast to the scrutiny than would be applied by more detached outsiders reviewing the project.

That said, internal financing by large companies has several advantages:

- funding may be immediately available;
- transaction costs are lower relative to the issuance of securities;
- no supervision and review by banks;
- less disclosure of financial details that could benefit competitors;
- a better informed evaluation of the project and its risk.

Well-established firms will often use a mix of internal and external financing: small projects are funded internally but large ones externally. Thus, over the life-cycle of a firm, internal funding is most likely to be used in the early stages of start-ups, but also in the mature stages of well-established firms operating in steady state.[17]

For films, a financial contribution by major performers is not unusual, either to obtain a larger share of the profits or in order to create a vehicle for themselves. An example of a self-financed film is *The Passion of the Christ*, a movie produced by actor Mel Gibson's company. He believed that the Hollywood studios were uncomfortable with his fundamentalist religious message, so he self-financed the film's production ($30 million) and marketing ($15 million) with his own money. The film was highly successful financially, grossing $611 million.[18] More common is for small independent films to be self-financed, for lack of alternatives. The Canadian film *Murder in Hopeville* cost $800,000, and film-maker Wendy Ord had to mortgage her home, sell her car, and max out her credit card to get it made.[19] The film was very popular, with a return on investment (ROI) of thousands of per cent.

It would be a mistake to view self-financing as "free." Internal funding has an opportunity cost to a company or individuals and a very real cost to shareholders. Profit that is reinvested is money that could have been paid out as a dividend to stockholders. In the words of the investment guru Warren Buffett, "earnings should [only] be retained when there is a reasonable prospect—backed preferably by historical evidence or, when appropriate, by thoughtful analysis of the future—that for every dollar retained by the

13 Kelly, Peter. "Finance and Venture Capital Markets." In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen and Antti Ainamo. (New York: Springer, 2003), 211–234.

14 Kelly, Peter. "Finance and Venture Capital Markets." In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen and Antti Ainamo. (New York: Springer, 2003), 211–234.

15 Stevenson, Howard H., Michael J. Roberts, and Harold I. Grousbeck. *New Business Ventures and the Entrepreneur.* (Homewood, Illinois: Irwin, Inc., 1985), 190-199.

16 Weiss, Miles. "Google Seeks Fund Rule Exemption to Increase Investment Returns." *Bloomberg*. August 24, 2006. Last accessed July 18, 2012. ► http://www.bloomberg.com/apps/news?pid=newsarchive&sid=a7cZrfAtxQPw.

17 Berger, Allen N. and Gregory F. Udell. "The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle." *Journal of Banking and Finance* 22, no. 6-8 (1998): 613-673.

18 Kronemyer, David. "A Template for Independent Film Financing." *Deconstructingpopculture.com.* November 15, 2006. Last accessed July 9, 2012. ► http://deconstructingpopculture.com/2006/11/a-template-for-independent-film-financing/.

19 Ord, Wendy. "Don't be afraid of self finance." *Canadian Filmmaker*. Last accessed July 9, 2012. ► http://www.canadianfilmmaker.com/content/view/83/38/.

corporation, at least one dollar of market value will be created for owners."[20]

There are various ways to estimate the cost of self-funding. For established firms, the finance literature typically uses a "bond-yield-plus-premium" approach. It takes the interest rate of a company's long-term debt (bonds) and adds a risk premium for the firm.

$$\text{Cost of Retained Earnings} = \text{Firm's Long Term Bond Yield} + \text{Risk Premium}$$

The cost of self-financing also has costs in terms of share value, and these rise with the amount of the retained earnings used. Investors typically buy common stock for two reasons, the cash dividend and the potential for capital gains. Together, they define an expected return.

$$\text{Expected Return} = \frac{(\text{Dividends} + \text{Capital Gain})}{\text{Price of Stock}}$$

If a company, for example, were to take its entire yearly dividend and use it to fund its projects there would likely be a significant sell-off reaction by those shareholders seeking steady income, and by all others whose expected return, to remain stable relative to that of similar projects, would require a lower yield (the numerator) to be matched by a corresponding drop in the price of the stock (the denominator). Unless more risk-tolerant investors step in, seeking the future growth from these investments, this sell off would often cause a drop in the stock's price, thus lowering the overall expected returns for the firm's project.

For a start-up company, too, there is an opportunity cost for self-financing. Its calculation is more complex since as a new company it has not yet established a long-term debt interest rate and thus one cannot use the "bond risk plus premium" approach of the equation above to estimate the cost of capital. Instead, one looks at a benchmark use for these funds, which would be to invest them in a project of comparable riskiness to the prospect at hand. This is done through the capital asset pricing model (CAPM) approach, in which the cost of capital is estimated as[21]:

$$r_a = r_f + \beta_a (r_m - r_f)$$

r_a = estimated cost of capital

r_f = risk free rate of interest

β_a = "beta" : the volatility of the specific industry versus the volatility of the stock market as a whole

r_m = expected rate of return for a similar firm

The CAPM approach has three basic steps. First, one estimates the risk-free rate (r_f) on an investment with zero risk. Typically used is the rate of US Government bonds. The 12 month US treasury bond rate average since 2000 has been about 2.75%.[22] Second, one determines the expected rate of return for similar firms (r_m). For start-ups, the comparison would be with "small cap" stocks, that is, of moderately sized firms. Since the 1980s, the average yearly return for small cap firms has been 13.8%.[23] The last step is to estimate the company's riskiness, as expressed in its "beta" (β_a). Beta is an important element in many analyses of stocks and can be calculated from the stock market price fluctuations of a stock in comparison to overall market fluctuations. When one does not know a firm's specific price volatility because the company's stock is not traded in a stock exchange and has no reported prices, one can estimate it by using average betas of similar firms in similar industries. For example, the average beta for the "Internet Sector," based on 180 firms, is 1.11.[24]

Self-financing has an impact on content and innovation. On the one hand, creators and entrepreneurs, since their personal money is on the line, might actually take less risk than a corporate manager whose owners are diffuse and distant, especially when it comes to large projects that could wipe them out financially. But this is usually more than offset by the impact of independence and the prospects of an upside financial and reputational gain. With self-financing, the owner is in control. Content produced and distributed may reflect the owner's own opinions and aesthetics. In technology, owners can take greater risks in backing projects in which only they have faith. This encourages greater innovation.

6.2.2 Case Discussion

Internal Funding

Time Warner Media could use retained earnings as a funding source for TWIT. What will be the cost and the availability? Though there are no interest payments associated with using retained earnings, there is still the opportunity cost for the money. As shown above, for established firms the opportunity cost of capital is given by[25]:

$$\text{Cost of Retained Earnings} = \text{Firm's Long Term Bond Yield} + \text{Risk Premium}$$

20 Buffet, Warren E. and Lawrence A. Cunningham. *The Essays of Warren : Lessons For Corporate America.* Durham, NC: Carolina Academic Press, 2015.

21 Investopedia. "CFA Level 1- Cost of Retained Earnings." 2012. Last accessed May 16, 2017. ► http://www.investopedia.com/exam-guide/cfa-level-1/corporate-finance/cost-of-retained-earnings.asp.

22 Mortgage-X. "Mortgage (ARM) Indexes." 2012. Last accessed July 18, 2012. ► http://mortgage-x.com/general/arm_index_average.asp.

23 AXA. "Good Things May Come In Small Packages: Small-Cap Stocks." 2013. Last accessed May 16, 2017. ► http://www.axa-equitable.com/investments/small-cap-stocks.html.

24 Damodaran, Aswath. "Betas By Sector." New York University Stern School of Business. January 2012. Last accessed July 18, 2012. ► http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/Betas.html.

25 Brigham, Eugene F., Dilip K. Shome, and Steve R. Vinson. "The Risk Premium Approach to Measuring a Utility's Cost of Equity." *Financial Management* 14, no. 1 (Spring 1985): 33-45.

We will see in later sections that the interest rate on the company's long-term debt is 6.9%. The risk premiums for media firms run in the 2–5% range,[26] and since Time Warner is well-established with a good credit rating its risk premium would be at the lower end of the range. The cost of retained earnings can thus be estimated as 6.9% + 2% = 8.9%. Expressed in terms of the average US prime rate of the preceding five years (5.45%), it would be 3.45% above that rate. A ceiling to such self-financing owing to its impact on the share price. Time Warner's stock sold at the time for $33.00 per share, on average. This price has expectations incorporated in it. Partly based on Time Warner management's statements, analysts predicted a cumulative dividend of roughly $1.00 for the next year, which means a cumulative quarterly dividend payouts to stockholders of $235 million. Analysts expected the stock market to appreciate at roughly 5% in that year, that is, by $1.65. The expected return for investors can then be determined using the expected return formula:

$$\text{Expected Return} = \begin{pmatrix}\text{Dividend Paid} + \\ \text{Capital Gain}\end{pmatrix} \div \text{Price of Stock} = (\$1.00 + \$1.65) \div \$33.00 \approx 8.0\%.$$

What will happen to Time Warner's stock price when one quarterly dividend is invested by the company to fund TWIT rather than paid out to stockholders who have anticipated such an overall annual return of 8.0%? We can estimate the fall in Time Warner's stock price from the one reinvested quarterly dividend:

$$\text{Stock Price} = (\text{Dividend Paid} + \text{Expected Price including appreciation}) \div (1 + \text{Expected Return})$$
$$(\$0.75 + \$34.65) \div (1.08) = \$32.77$$

Thus, when the dividend is cut (reinvested) by 25% to $0.75, Time Warner's stock price would decline by $0.23 to maintain an 8% return. This represents a drop of about $225 million in market valuation. (We assume that investors will not value the potential but hypothetical long-term impact of the investment.) Time Warner has thus gained a financing of $235 million (the reinvested quarterly dividend) at the cost of a drop in valuation of about the same amount. It gained liquidity in the short term with the cost of a diminution in capitalization value. But if Time Warner were to withhold a second quarterly dividend per year, the stock would drop still more, and likely more steeply since it would rightly be seen as more than a small adjustment. Thus, the company's management would limit such dividend withholding, in accordance with the rule articulated by Warren Buffett that was quoted earlier, at the equivalent of one quarterly dividend.

SNIT

Each of the three founders of SNIT has a total of $10 million of their own money to invest, plus $10 million from their friends and relatives. The CAPM equation estimates the cost of SNIT's internal funding:

$$r_a = r_f + \beta_a (r_m - r_f)$$

The risk-free rate r_f = 2.75%. The return for small cap firms has been r_m = 13.8. The return for internet firms has been β_a =13.8, and their beta has been 1.11. Thus, SNIT's estimated cost of capital is

$$r_a = 2.75 + 1.11(13.8 - 2.75) = 15.02.$$

Expressed in terms of the average US prime rate, this would be 5.45% (the average prime rate over five years) plus 9.57%. The ceiling to $r_a = r_f + \beta_a(r_m - r_f)$ SNIT's self-funding is $20 million, the amount assumed to be available from the founders, their family and friends.

6.2.3 Project Selection for Self-Funding

A company that allocates its resources must invest them optimally. This is done through the process of capital budgeting. There are various stages in this process. One of the most important is the investment selection process where major techniques are used to evaluate the project's feasibility.

Major techniques for screening and evaluating projects include those of:

- payback period;
- discounted payback period;
- net present value (NPV);
- profitability index;
- internal ROI.

$$\text{Payback Period} = (\text{Cost of Project or Investment}) / \text{Annual Net Income}$$

In using this technique, a project is selected (or not) based on the time it takes to recover the investment. An example is the payback period a project that costs $500 million to create and construct in year 1, and is expected to earn, after operating expenses, $200 million a year. By Year 5 the project has repaid its initial investment cost and early operating losses; in other words, it becomes cash-flow positive.

To find the payback period one builds a table with estimated annual cash flows, as in Table 6.1.

Table 6.1 Annual cash flow

Year	Operating and investment costs	Revenues	Net cash flow ($ millions)	Cumulative net cash flow ($ millions)
1	(700)	100	(600)	(600)
2	(200)	200	0	(600)
3	(200)	300	100	(500)
4	(200)	400	200	(300)
5	(200)	500	300	0
6	(200)	500	300	300
7	(200)	500	300	600

The problem with using the measure of the payback period is that it ignores the time value of money, the riskiness of the project, and the cash flow that follows the payback period. These problems are addressed by incorporating the time value of money and the riskiness of the investment, by discounting future cash flows by the cost of capital, which is required by creditors and owners as compensation for their money.[27] The NPV method considers all future cash flows, including those received after the break-even point. It discounts each year's

26 Investopedia. "CFA Level 1- Cost of Retained Earnings." 2012. Last accessed May 16, 2017. ▶ http://www.investopedia.com/exam-guide/cfa-level-1/corporate-finance/cost-of-retained-earnings.asp.

27 Peterson, Pamela P. and Frank J. Fabozzi. *Capital Budgeting: Theory and Practice*. (New York: John Wiley & Sons, 2002), 64.

Table 6.2 Net Present Value

Year	Costs	Revenue	Net	Discounted (12% per year)
1	(700)	100	(600)	(600)
2	(200)	200	0	0.00
3	(200)	300	100	71.39
4	(200)	400	200	120.65
5	(200)	500	300	152.91
6	(200)	500	300	129.21
7	(200)	500	300	109.17
8	(200)	500	300	92.25
9	(200)	500	300	82.36
10	(200)	500	300	73.54
			NPV	*$231.48*

net cash flow by the discount factor, and the time of that cash flow. For each year, the present value (PV) is

$$PV_i = \frac{NCF_i}{(1+r)^i}$$

where I is the time until the cash flow is received (Year 1, Year 2). Added together, the NPV of future cash flows, net of expenses, is

$$NPV = \sum_{i=1}^{\infty} PV_i = \sum_{i=1}^{\infty} \frac{NCF_i}{(1+r)_i}$$

Table 6.2 uses for the discount rate for the cost of capital, assumed as $r = 12\%$, and adds up the discounted cash flows. The NPV of ten years of cash flows is $231.48 million, including the initial outflow of investment. That number would be somewhat larger if one calculated beyond 20 years. However, the discounting over a longer period does not add much in terms of PV. For example, a dollar earned 30 years hence, with a discounting at an annual 12%, is worth today 3 cents.

NPV calculations show us a dollar amount (Table 6.2). But what is that dollar amount as a percentage of return to the investment? This gets us to the next measure, the internal rate of return (IRR).

The IRR is the discount rate that makes the PV of all expected future cash flows equal to zero.[28] IRR is given by the equation $NPV = O = \sum_{i=1}^{\infty} \frac{NCF_i}{(1+IRR)^i}$

Finding IRR involves some arithmetic. Typically, this is done by estimating an initial IRR, calculating the NPV, and adjusting the IRR upwards or downwards until the NPV is close to zero. Financial calculator software programs can be used to do this. For a company to undertake a particular project the latter's IRR must exceed the company's "hurdle rate." That hurdle rate would be higher for riskier projects and industries, and varies accordingly. A survey of CFOs found their companies using hurdle rates ranging from 6% to 25% and centered on 15%.[29]

Which hurdle rate to use, that of a company or of the industry? After all, many companies straddle several industries, each with different risk characteristics. Most companies, according to the surveyed CFOs, use a company-wide hurdle rate, but some use the hurdle rate specific to the industry within their division. The German technology firm Siemens assigns a different hurdle rate to each of its 16 major business lines. They range from 8% to 11%, based on the volatility of stock of rival companies in the relevant industry.[30]

6.2.4 Case Discussion

Time Warner—IRR

Time Warner's IRR cost of capital, as will be determined later in this chapter, for an optimal mix is a low 7.27%. Hence TWIT is a feasible project. Feasible, however, does not mean optimal. The TWIT project must also compete for investment funds with other Time Warner projects that may have a better return and/or less risk.

For start-up SNIT things are more pessimistic. Suppose the company calculates its IRR to be 13%. As we shall see later, it costs SNIT 14.19% to raise funds. This would negate economic logic for the venture. However, if management is very optimistic about this project it may go ahead anyway, hoping for the best.

6.3 Debt Financing

6.3.1 Pros and Cons of Debt

Other than internal funding, debt is usually the cheapest form of financing. Debt is typically money borrowed from an outside source such as a bank or another type of lender, with the promise to return the principal (the original amount borrowed) and in addition pay an agreed-upon level of interest, either regularly or at the end.

There are several advantages to debt. It is:

- quicker to create than equity;
- does not change the existing ownership structure;
- allows for interest payments to be deducted from taxes;
- keeps the upside potential of the project with shareholders.

28 Peterson, Pamela P. and Frank J. Fabozzi. *Capital Budgeting: Theory and Practice*. (New York: John Wiley & Sons, 2002), 64.

29 Meier, Iwan and Vefa Tarhan. "Corporate Investment Decision Practices and the Hurdle Rate Premium Puzzle." Working Paper. January 28, 2007. Last accessed May 17, 2017. ▶ https://doi.org/10.2139/ssrn.960161.

30 The Economist. "Finance and Economics: How high a hurdle?" May 6, 1999. Last accessed May 17, 2017. ▶ http://www.economist.com/node/607466.

But there are disadvantages to debt:

- Loans must be repaid in a timely manner and can lead to the bankruptcy of even a good project if it is caught in a cash flow squeeze.
- The borrowers may have personal liability with their assets.
- Assets pledged as collateral may be lost.
- There is a hidden cost to debt as it makes the company riskier for investments.

A bank will scrutinize a company's business plan, management, financial reports, and the other financial backers, and will set conditions on how the company must operate. These debt covenants give lending institutions control and prevent borrowers from increasing riskiness. Debt covenants may include specific financial ratio "triggers," restrictions on certain activities, and periodic submission of financial information.

In recent history, in the USA, 92% of all small business debt to financial institutions was secured and backed by collateral. In addition, 52% of such financial institution debt was guaranteed, usually by the owners of the firm, including by collateral such as a house.[31] Banks and other lenders might also require a third-party endorser or guarantor to be personally liable for payment if the borrower defaults.[32]

In the film business, debt is the most common form of financing, after the pre-sale of distribution rights. Loans to the production can be made by the distributor or studio in return for a commitment of the producer to use the distributor who lends the money. An alternative mechanism to secure debt financing is a negative pick-up deal. A commitment is made by a distributor to the producer to purchase or license the film's distribution rights once the physical negative has been produced. That commitment (the pick up letter) is then taken to a commercial bank and is used as collateral to borrow production funds from the bank. If the producer defaults on the repayment, the bank is then entitled to payment from the distributor from the revenues that the film generates.

Internet firms have difficulties getting debt financing. They typically have low cash flows and few real assets to borrow against, and often have negative profits for quite a while, also known as cash burn. In contrast, established telecommunications and cable TV firms have lots of assets and are fairly stable. In consequence, it is a way of funding they often employ. For established cable or telecom firms, debt represents 40–90% of their overall funding.

As a company goes through the specific phase in its lifecycle its access to credit changes, as does its need for outside funding. When companies grow, their financial needs and their projects also tend to grow. At some point, a single bank will be reluctant to place too big a bet on a single company by itself. Syndicated loans have a broader participation beyond a single bank, with several banks co-sponsoring or underwriting loans to spread their risk. For example, when the Indian mobile telecom operator Idea Cellular needed a $1 billion loan, a syndicated loan deal was managed by several lead banks, who in turn organized about 50 smaller banks to supply the funding.[33]

6.3.2 The Hierarchy of Debt

Debt comes in many forms, with some more secure than others. A hierarchy of debt ranks it from the most secure to least secure. In the case of bankruptcy the most secure debt is paid first and the least secure debt last, which often means never.

Most midsized firms have arranged for a bank debt line (or letter) of credit (LOC) or credit security. An LOC is an agreement in which the lender gives the borrower access to a certain level of funds. This is on condition that the borrower's condition has not suffered material adverse change or that the borrower has violated a covenant in the contract. In a way, it is like an overdraft privilege for personal checking accounts with a ceiling.

LOCs are typically secured by two types of fairly liquid assets, namely accounts receivable and inventory. Because of its low risk profile, LOC financing is usually the least expensive at about 1–1.5% over prime.

The lender charges for the loan either a fixed or a variable interest rate that fluctuates depending on the prevailing interest rates. LOCs typically comprise one-sixth to one-third of an established company's outstanding debt.[34] LOCs may have a term length of one to three years, and after their expiration may be rolled over into the next LOC by the bank. The LOC is likely to be reauthorized as long as the borrower continues to make repayments on time and the lender continues to feel comfortable about the loan. In lending to film companies, production loans to low-risk firms (such as the major studios) are set at 0.5–1% above the prime rate. Small production companies are riskier and pay 3% above the prime rate.

As an example, in 2008, the IMAX Corporation, a Canadian producer and exhibitor of 3D films, had total revolving LOC lines of $40 million, of which $10 million came from the Bank of Montreal, made available to the company to roll out its digital projection systems.[35]

6.3.2.1 Senior Term Debt

The second most common form of bank financing for small and mid-sized companies is senior term debt. This is offered to a company by a bank or finance company. These loans are made against fixed assets that are fairly liquid, such as real property, plant, and equipment. A "senior" lender ranks ahead of some other creditors in the event of liquidation, and

31 Berger, Allen N. and Gregory F. Udell. "The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle." *Journal of Banking and Finance* 22, no. 6-8 (1998): 613-673.

32 DiGregorio, Robert, C. "How to Finance Your Film: Part 2." *New England Film*, November 1998.

33 TNN. "Idea to raise $1bn via syndication to clear costlier debt." February 28, 2005. *The Economic Times*. Last accessed May 17, 2017. ► http://articles.economictimes.indiatimes.com/2005-02-28/news/27475159_1_loans-reliance-industries-plans-bank-of-india-plans.

34 Sufi, Amir. "Bank Lines of Credit in Corporate Finance: An Empirical Analysis." *The Review of Financial Studies* 22, no. 3 (Jan. 2007): 1063-1065.

35 IMAX Corporation. "IMAX Corporation Announces New Revolving Letter of Credit Facility with Bank of Montreal." *StudentFilmmakers.com*. October 18, 2008. Last accessed July 18, 2012. ► http://www.studentfilmmakers.com/news/article_1768.shtml.

can seek repayment from the forced sale of the secured assets. Such loans will usually not be provided for a venture whose debt load already exceeds equity. Senior term debt runs for five to ten years, costs 1–2% over prime, and may often represent 25–30% of the total outstanding debt of a corporation.

As an example, in 2006 the Australian private equity (PE) firm Babcock & Brown acquired the Irish national phone company Eircom for €4 billion through a €3.65 billion senior debt loan from Credit Suisse, Deutsche Bank, and JPMorgan. At the time of the transaction, Moody's and S&P had graded the company debt at Ba3/BB-,[36] which is a poor rating and a reason why the lending banks required the assurance of senior debt secured by the assets of Eircom itself. In the end, Babcock & Brown went bankrupt in 2009. Its share price dropped 99%. Unsecured lenders were offered $.001 on the dollar and rejected it. Babcock & Brown was liquidated and the proceeds distributed to those creditors for a minuscule payback. But the secured lenders held 57% of Eircom as a collateral and ended up mostly OK, because Eircom itself was operating in the black, in contrast to its overstretched parent company.

6.3.2.2 3rd Level of Debt: Subordinated Debt

Subordinated or non-collateralized debt ranks below senior debt in repayment when there is a bankruptcy. It can be secured by a second lien on company assets (like a second mortgage on a house) or be unsecured. It can have an "equity kicker," which gives the lender the option to trade the debt for an equity stake in company, in a similar way to convertible bonds (discussed below). This gives the lender an upside potential if the stock price rises, and makes the loan more attractive.

Subordinated debt is costlier than senior debt, because it is less secured by liens or collateral and gets paid off only after the senior debt. The interest rate on subordinated debt was 3–7% over prime.

An example is the subordinated debt that was issued by the major British cable TV companies NTL and Telewest to finance their expansion.[37] In 2003 NTL, unable to repay its obligations, converted $11 billion of subordinated debt into shares instead of repaying the debt. This was the largest debt default in UK history at the time. A year later, Telewest, similarly, swapped (paid off) its unsecured debt in return for 98.5% of its shares. In other words, both companies sold themselves to their creditors. The companies thus technically avoided bankruptcies. NTL merged with Telewest in 2006 and was rebranded as Virgin Media, which was bought by Liberty (John Malone, USA) in 2013.

6.3.3 The Impact of Secured and Unsecured Debt on Content and Innovation

The more secured a lender is, the greater its support is for risky activities in content and technology. But content producers can rarely offer collateral of any value until near the completion of their productions. Some producers may own a library of films that can be used as collateral. When there is no collateral, lenders will seek:

- low-risk projects;
- insurance;
- risk-shifting to other participants, partners, and investors.

6.3.4 Case Discussion

Line of Credit

TWIT

Viable loan programs available to TWIT include a commercial bank loan (term loan) and revolving LOC secured by the full faith and credit of its parent company. In 2011 Time Warner entered into a credit agreement with Citibank for a five year revolving credit line totaling $2.5 billion. The funds were for Time Warner's "general corporate purposes" and "working capital needs." Such borrowings are charged an interest rate that is determined on the basis of Time Warner's senior debt rating (BBB+ at the time) and the percentage of commitments used. Time Warner's agreement with Citibank stipulates that the London Interbank Offer Rate (LIBOR) is used to determine the interest rate. (LIBOR is based on the rate of interest that banks borrow from other banks in London's wholesale money market. It is typically used as a reference in deals that are international in scope.) The LOC agreement asserts that Time Warner will pay LIBOR plus 1.5%, plus a 0.3% "facility fee." With the five year average LIBOR at 3.21%, interest cost on the LOC is therefore 3.21% + 1.5% + 0.3% = 5.01%, or, expressed differently, it is the five-year average US prime rate of 5.45% minus about 0.50%.[38]

This does not take into account the tax angle of a debt transaction. Interest payments on business debt are a tax-deductible expense. The magnitude of such deductions varies by the tax rates of a jurisdiction; we assume a 30% income tax deduction on interest payments. The interest cost of LOC debt is therefore 30% lower after taxes.

Time Warner, in addition to the TWIT project, has also many other worthy projects and operations to fund by an LOC. We assume that it will allocate to the TWIT

36 Guider, Ian. "Eircom Set to Change Hands for 2.5 bn." *Irish Examiner.* May 24 2006. ► http://www.irishexaminer.com/ireland/eircom-set-to-change-hands-for-25bn-4168.html.

37 Milmo, Dan and Richard Wray. "Cable merger revives telecom sector calls for access to network." *The Guardian.* October 4, 2005. Last accessed July 18, 2012. ► http://www.guardian.co.uk/media/2005/oct/04/broadcasting.citynews.

38 While traditionally prime rate was the interest charged by banks to favored customers, banks may offer interest rates that are below the current prime rate to highly qualified clients in order to generate business.

project up to 10% of the available five-year revolving credit line of $2.5 billion.

SNIT

In contrast, start-up company SNIT has no or only limited access to bank loans or credit lines owing to its small size, lack of assets, and lack of a historical track record. What interest rate would conceivably compensate a bank for the risk? Assume that the founders themselves have found limited sources for a loan.[39] The loan amounts and the interest charged are based on the credit scores of the founders, their income streams, and the personal assets that can be pledged as collateral.

Assume that SNIT's five founders have found a lender willing to issue them an LOC in an amount equal to 20% of their net worth. Each of the founders has an impeccable credit score, a private home, an ongoing relationship with the lending bank, and an average net worth of $1 million. The cumulative LOC amount would therefore be $1 million. The rate of interest on the LOC would be 15%.[40] This translates into the five-year average prime rate (5.45%) plus 9.55%. This does not incorporate tax deductibility, which might reduce the cost by 30%, that is to 10.5%, assuming that there is an income to deduct against.

6.4 Short-Term Debt

Different types of debt can be ordered by the length of time until full repayment is due. Short-term debt is typically considered to be less than one year in length.

In the media sector, several types of short-term debt are used:

- gap financing;
- completion loans;
- bridge loans;
- commercial paper (CP).

6.4.1 Gap Financing

Gap financing in media is used to cover the difference between the amounts raised in the early sale of distribution rights and the actual cost of finishing the project.[41] In other words, it is the part of the budget that must come from the outside, from parties not directly related to the project and its further exploitation. Gap levels in film are usually 15–25% of budget.

To add security to the lender, there exists gap financing insurance that kicks in if the producer cannot repay the entire loan to the lender. This business is risky. Insurers reportedly lost $1.5 billion in 2000 on bad film projects with gap insurance policies. The French insurance giant AXA insured about 150 films for a total of approximately $500 million in the 1990s. This enabled American independent producers to secure loans from banks. Of the approximately 150 films which AXA insured, only about 30 could repay their loans. AXA faced at least $250 million in losses, plus huge legal bills.

6.4.2 Completion Loans

Completion loans are for projects that have already been finished or are close to being done. With the project substantially completed and available for review, the risk to the lender is much reduced. Completion loans/funds are often provided to smaller film-makers for distribution costs, and are usually much smaller than gap loans.[42] For example, the UK Film Council offered completion loans totaling £70,000 in 2010 for short film projects that were already shot but not yet finished.[43] In other cases, completion loans are made by parties interested in assuring the conclusion of projects they feel positive about. For example, Frameline provided in 2008 completion funds of $20,000 for four gay-themed films.

6.4.3 Bridge Loans

Short-term bridge loans are made to enable transaction from one long-term arrangement to another. As an example, in 2000 Time Warner purchased the assets of the bankrupt competitive telecom local exchange carrier GST for $700 million. Time Warner got a bridge loan to provide the time to structure the new financing for the long term. To repay the bridge loan, Time Warner then issued new shares of common stock for $317 million (i.e. equity) and also took on debt for $400 million. Bridge loans are expensive when compared with other financing options. They are short-term lending options, and the higher fees are implemented because the period with interest payments will likely be brief.

6.4.4 Commercial Paper

A major way for established companies to raise money for short periods is CP. CP loans are unsecured and taken by a company with a repayment period ("maturity") of up to 270 days, but an average of about 30 days. CP interest is paid

39 Credit Guru Inc. "Setting Credit Limits." 2012. Last accessed May 17, 2017. ► http://www.creditguru.com/CreditLimits.htm.

40 Marlon, Sharon. "Unsecured Personal Loans On The Increase." *MarketProSecure*. March 14, 2011. Last accessed July 18, 2012. ► http://www.marketprosecure.com/personal-finance-news/unsecured-personal-loans-on-the-increase-198.html.

41 Insurance Journal. "Film Financing Trial Starts in London." January 14, 2002. Last accessed May 17, 2017. ► http://www.insurancejournal.com/news/international/2002/01/14/15980.htm.

42 Alberstat, Philip. *The Insider's Guide to Film Finance*. London: Focal Press, 2004.

43 Maya Vision International. "The Short Film Completion Fund." 2011. Last accessed July 18, 2012. ► http://www.mayavisionint.com/Funding/The_Short_Film_Completion_Fund/index.html.

at maturity date. The companies borrow money from financial institutions and issue CP as promises to repay. These promises, in turn, are resold by the lenders to other investors at a discount.

CP is bought by banks, insurance companies, money market and pension funds, and other institutional investors. It is typically issued (i.e. money is borrowed) by companies with good financial standing, because they are unsecured by assets and thus stand on the reputation of the borrowing company. It is often said they are the kind of loans made to companies that do not really need them, except for the purpose of smoothing their income. CP buyers (the lenders) in turn do not need to do much in the way of due diligence to investigate the borrower because those firms are low risk. In addition, a "back stop" is often used to guarantee payment by the bank that originated the paper. Securities that are offered to the public usually need to be registered with the securities regulators such as the SEC in America, but most CP is exempt from such a registration requirement.[44]

An advantage of CPs is relatively quick access to low-cost financing. As examples, in 2006, China Unicom issued $750 million in CP for investment in its 3G wireless network,[45] and the American mobile company Sprint issued $2 billion in CP. In both cases, investments in network infrastructure are long term. Even so, the companies chose short-term CP financing to benefit from the low interest, quick funding option.[46]

In other cases, companies use short-term CP because they have no access to long-term financing or because they expect long-term interest rates to drop soon. But commercial paper use is subject to a "roll-over risk" or "liquidity risk" as investors may not be willing to refinance CP that has reached maturity, owing to changing market conditions or changes in the borrower's overall financial circumstances. For example, in 2002 the old AT&T, having amassed a huge debt, had difficulty getting long-term loans through the issuance of quality long-term bonds. It therefore used the CP market for short-term loans which it would roll over periodically, paying off the old short-term debt by new short-term debt. By 2001 AT&T had a $16–$18 billion debt in CP out of its total $50 billion of debt. AT&T's strategy was to improve its financial condition and then refinance its short-term CP debt through long-term debt. Unfortunately for AT&T, this did not work out, and running out of money it was forced to sell itself to SBC in 2005.

CP comes in several qualities ("tiers").[47] Each of these has sub-tiers. Tier 1 CP is usually rated AA. The interest rate is usually below LIBOR. This rate fluctuates greatly. In May 2000 it was high, 7.34%. In October 2003 it was low, 1.42%. In August 2006, it was high again at 5.23%, but by January 2015 it was 0.25%, and in August 2018 it was 2.82%. Tier 2 CP tends to have an interest rate a little higher than LIBOR. The Tier 2 and 3 markets are smaller, less deep, less liquid, with fewer buyers, and greater risk.

6.4.5 Case Discussion

Commercial Paper Debt

TWIT
One major debt option for TWIT is unsecured CP backed by its well-established parent company, Time Warner. Generally speaking, a long-term project such as TWIT should be financed through long-term means rather than using a short-term approach.[48] But the CP could be used as a temporary financing vehicle. In February 2011, the company issued $5 billion in CP, rolling over (replacing) the previous $6.9 billion CP. ($5 billion in 2001, and $2 billion in 2002.) The five year average (2006–2010) interest rate on corporate three month (90-day) Tier-2 CP was about 3.2%. This translates into the five-year average prime rate of 5.45% less 2.25%, before taxes.

SNIT
SNIT, as a newcomer, would not be able to issue CP. To enter the CP market, it would require sponsorship from a commercial bank or third party to guarantee payment. But in SNIT's circumstances this would be unlikely.

6.5 Long-Term Debt

6.5.1 Corporate Bonds

Once a firm is well established, its next stage of financing is to access long-term corporate debt. The typical form of such debt is typically in the form of bonds. When such debt is traded in financial markets it is known as public debt, which should not be confused with governmental debt. The standard length to maturity of a corporate long-term bond is between three and 30 years. But some bonds have a 100-year maturity date, or even go on forever. If the maturity date is less than ten years it is a "note," and if it is over ten years it is a "debenture." Many deals have multitranche maturities, in which there are several categories of bonds with different lengths of repayment to even out the repayment schedule over time. There are also "zero coupon" bonds. These bonds do not make periodic interest payments but are sold below face value. The interest fee is then in effect through the higher repayment at the maturity date.

44 Liu, Henry C. K. "Pathology of Debt, Part 2: Commercial paper and pesky SIVs." *Asia Times Online*. November 28, 2007. Last accessed July 18, 2012. ► http://www.atimes.com/atimes/Global_Economy/IK28Dj04.html.

45 China Unicom to sell 6b yuan notes to raise working capital; Operator's short-term debt sale follows US$1 billion bond deal with SK Telecom, South China Morning Post 2006. Telco Trash & ICT Reboot. "G China Telecom News – 5 July 2006." July 5, 2006. Last accessed July 18, 2012. ► http://khcheng.blogspot.com/2006/07/g-china-telecom-news-5-july-2006.html.

46 Online Investing. "MTN Raises 3.5bn Rand in Bods, Commercial Paper." July 16, 2010. Last accessed September 28, 2011. ► http://hyip-online-investing.com/telecommunications-mtn-raises-3-5bn-rand-in-bonds-commercial-paper.html.

47 Reason, Tim. "Good to Rate." *CFO Magazine*. September 1, 2003. Last accessed July 18, 2012. ► http://www.cfo.com/article.cfm/3010263/3/c_3046597.

48 The ceiling on tier 2 issues is usually around $6–8 billion. For example, the Walt Disney Company had a substantial $4.5 billion in outstanding Tier 2 CP debt in 2004. By 2010, this had declined to $794 million. Tier 3 CP debt is usually rated in the mid-BBB level. It has an interest rate well above LIBOR and smaller issues of $200–300 million. See also Kacperczyk, Marcin, and Philipp Schnabl. "When Safe Proved Risky: Commercial Paper During the Financial Crisis of 2007–2009." *Journal of Economic Perspectives* 24, no. 1 (Winter 2010): 29-50.

Table 6.3 Cost of debt of major media firms (2006)

Company	Rating	Approx. interest rate for rating	Total debt in $ billions	Annual cost of debt in $ billions	Annual cost of debt if rating were AAA, in $ billions	Annual savings if rating were AAA, in $ millions
AT&T	A	5.50%	30.47	$1.68	$1.52	$160
CBS	BBB	6.10%	7.04	$0.43	$0.35	$80
Comcast	BBB+	5.90%	24.12	$1.42	$1.21	$210
News Corporation	BBB	6.10%	11.43	$0.70	$0.57	$130
Time Warner	BBB+	5.90%	23.47	$1.38	$1.17	$210
Verizon	A	5.50%	42.36	$2.33	$2.12	$210
Viacom	BBB	6.10%	7.66	$0.47	$0.38	$90
Vodafone	A–	5.70%	37.78	$2.15	$1.89	$260
Disney	A–	5.70%	12.67	$0.72	$0.63	$90

Chart compiled with data from Standard & Poor's bond ratings and interest rates in 2006. ► http://www.standardandpoors.com/ratings/en/us/

Long-term debt is most appropriate for companies with steady cash flows or strong growth prospects. Examples are companies in cable TV, direct broadcast satellite, wireless, and telecom. In 2001, Deutsche Telekom issued €8 billion bonds to pay for 3G mobile phone licenses. In 2004, Korea Telecom issued $100 million in 30-year corporate bonds. In 2006, debt accounted for 52% of Viacom's enterprise value. Of this, 99% was long-term debt. For AT&T long-term debt was $125 billion and 51% of market capitalization, and for Verizon $106 billion and also 51%. In contrast, the relatively young and asset-lean Netflix had $3.3 billion debt which was only 6% of the company's market capitalization. Netflix, once established raised another $1 billion in the bond market to help fund content expansion, with a 4.375% interest rate. Comcast had $60.4 billion in debt in 2016, about 37% of the company's market capitalization. To borrow additional money, Comcast issued A3/A-rated high-grade bonds worth $4.5 billion in four parts[49] that form a "ladder" for repayment:

- $700 million in 1.6% five-year notes issued at a spread of 55 basis points (bps) over similar-maturity Treasury bonds.
- $1.4 billion in 2.4% ten-year notes issued at a spread of 85 bps over similar-maturity Treasuries.
- $1.0 billion in 3.2% 20-year bonds issued at a spread of 100 bps over similar-maturity Treasuries.
- $1.4 billion in 3.4% 30-year bonds issued at a spread of 120 bps over similar-maturity Treasuries.

Sometimes, interest rates drop substantially and the borrower would like to refinance at a lower rate. Therefore, some bond debt comes with a "call" feature which allows the issuer (the borrower) to pay back the bond's face value to the investor (the lender) prior to the maturity date. To compensate the lender, there is a penalty for early repayment.

Companies issuing bonds are evaluated by rating agencies in terms of their credit quality based on business and financial analysis. Three firms lead the credit rating market in the USA, Moody's, Standard & Poor, and Fitch. There are also second tier and web-based rating services. Rating agencies look at both quantitative and qualitative factors when analyzing bond issuers. Qualitative factors include industry risk, operating environment, market position, management track record, and especially accounting data. Quantitative factors include cash flow, capital structure, and financial flexibility. Bonds with an acceptably low risk of default are rated BBB and higher. These bonds are considered investment grade. Bonds with a rating of BB or lower have a higher risk of default and are considered speculative grade, high yield, or, colloquially, junk bonds.

Table 6.3 details the ratings of major media firms, the resulting average interest rate assigned to those ratings, the subsequent dollar denominated cost of the ratings, and the annual savings if the firm could attain a debt rating of AAA.

As one can see, the difference can be substantial; for example, an annual $210 million for Comcast, Verizon, and Time Warner, and $260 million for Vodafone. Most established telecom companies used to be rated AA. They were downgraded when they took on huge debt for buying spectrum licenses and for mergers and acquisitions.

49 Noah, Lynn. "Comcast Issued the Most High-Grade Bonds Last Week." *Market Realist.* July 19, 2016. Last accessed May 17, 2017. ► http://marketrealist.com/2016/07/comcast-issued-high-grade-bonds-last-week/.

As an example, in 1998 British Telecom had a debt of £1.5 billion, but by 2000 this had skyrocketed to £30 billion. Credit rating was lowered to A. The interest rate rose 1% (150 bps–250 bps). On a debt of £30 billion this is an extra £300 million a year in interest payments.

There are other consequences and lowered ratings due to high debt. Many investors such as pension funds have internal policies about the minimum rating levels which they require, and they must sell bonds whose ratings drop below that threshold. In other cases, bonds may have "triggers" that automatically increase interest rates in old bonds if the firms are downgraded.

Investment grade firms have debt of up to perhaps three times earnings (earnings before interest, taxes, depreciation and amortization, EBITDA). Junk bonds have four to eight times EBITDA. Some issuers of junk bonds are "rising stars" (new companies). In other cases, it may be a solid company that borrows heavily to finance an acquisition. In still other cases, the company borrows to pay for its own acquisition by others (leveraged buyout).

As an example, in 2007 the mobile phone company Alltel issued $7.7 billion worth of junk bonds to help fund the $27.5 billion buyout of itself by the investors Texas Pacific Group and Goldman Sachs. In other words, the buyers—two PE funds—financed a significant part of their acquisition by borrowing against the company they were buying, and selling this new and expensive Alltel debt (i.e. the bonds) to private investors.

The default rates of junk bonds are, on average, about 3–4% of all such bond issues but much higher during downturns in the economy. With the dot-com bust after 2000, the default rate exploded to 43.5% of telecom loans in 2002. The borrowers filed for bankruptcy protection, banks and bondholders lost hundreds of millions of dollars, and the debt financing market for telecom start-ups essentially closed for years.[50]

The telecommunication sector had by far and away the highest default rate on corporate bonds of any industry for the period, with average annual default rate of 11.5% for the period 1980–2007.[51] The average corporate default rate during that period was 0.5%.[52] The default rate for broadcasting and media over that period was 2.1–1.6%.

6.5.2 Short-Term Versus Long-Term Debt

Maturity analysis is the examination of the pattern of future financing cost (such as dividends, interest expenses, and repayments of the principal) and its relation to future cash flows that can cover such payments. Companies try to match the amounts and timing of payments to the projected dates of future revenues. This process is called duration matching. Companies usually try to link the funding to the life of an asset. Short-term debt would thus be appropriate to project-oriented industries such as film production or video game development. In contrast, long-term debt is seen as more appropriate for the long-term investments of infrastructure firms such as telecom or cable TV operators. Mismatches can have negative consequences. When funds are raised before they are actually needed, the issuer suffers negative arbitrage. Unused funds sit around and usually earn a lower interest rate than the borrower's cost of funds. The reverse mismatch may require a borrower to pay back (retire) the debt before the completion of the project and before it starts earning money. The firm then might become insolvent financially even though the project is proceeding well in every other respect.

Long-term debt tends to be preferable for large established companies. Short-term debt is preferable for companies with high growth. If a firm's income is vulnerable to interest rate upswings it will prefer long-term fixed rate debt.[53] If it uses debt with shorter maturities, it may have to repay them with proceeds from fresh issues ("roll-over of debt"). But this exposes the issuer to roll-over risk when credit freezes up. In situations where the firm expects the interest rate will go down, it will try to avoid being locked in a relatively high interest rate, by either going for a short-term debt or through a long-term debt with "floating" (i.e. variable) interest.

6.5.3 Impact of Short Term Versus Long Term Debt on Media and Digital Tech Companies

Media companies that must seek frequent refinancing are under greater performance pressure. This favors low-risk technology projects, non-controversial content, and a short time horizon. In contrast, long-term debt allows for a longer time horizon to create and innovate, but investors require a risk premium for committing their funds to long and uncertain prospects. Creative long-term opportunity is thus more expensive than short-term and modest innovation. However, it has a higher upside.

50 Burns, Mairin. "Feet to the Fire: Distressed-debt investors force needed discipline on telecoms." *The Investment Dealers' Digest*. May 5, 2003.

51 Fitch Ratings. "Fitch Publishes 'Credit Encyclo-Media Volume VIII." September 22, 2015. Last accessed May 17, 2017. ► https://www.fitchratings.com/site/pr/991149.

52 Even real estate had a lower default rate, 1.5%, during that period. This changed after the next crisis, the sub-prime mortgage crisis after 2008.

53 Aivazian,Varouj, Ying Ge, and Jiaping Qiu. "Debt maturity structure and firm investment." *Financial Management* 34, no. 4 (Winter 2005): 107-119.

6.5.4 Case Discussion

Corporate Bonds

TWIT
Corporate bonds require steady cash flows and strong proven performance. Time Warner had these characteristics. It could issue corporate debt through a process called underwriting, with one or more securities firms or banks forming a syndicate and buying the entire issuance of bonds (i.e. they lend the company the money). The banking syndicate will then resell much of that debt to investors at a higher price and hence at a lower yield. Based on the company's corporate credit rating of BBB it would have to pay an annual interest rate of about 6.9% on ten-year corporate bonds.[54] The Federal Reserve sets a federal funds rate for bank loans. The "Prime" rate is the interest rate charged by banks to their best customers, usually 3% above federal funds rate set by the Federal Reserve Bank, and is determined by polling the ten largest banks in the USA. The average prime rate prevailing during a five-year period was 5.45%. For BBB bonds, therefore, the risk premium was 1.45%. Time Warner could finance TWIT's entire $1 billion budget through corporate bonds, but there are other variables that affect its funding decisions so it may limit the use of corporate long-term debt. In 2010 the company's debt-to-capital ratio was 33.3%.[55] The company made major efforts to lower its debt in an effort to boost its stock price and lower the cost of borrowing. If it does not want to overload again with debt but rather apply its debt financing ratio ceiling of 33.3% to the $1 billion needed to fund TWIT, this would put a ceiling on its new borrowing.

SNIT
In order for SNIT to issue corporate bonds to the public bond market it needs to be rated by the major rating agencies to satisfy investors. SNIT, as a start-up, would not attain a decent rating, if at all. A SNIT borrowing would be considered a high-risk non-investment grade bond. It would receive a rating as a corporate junk bond rating of CCC, CC, or C.[56] It would probably hold a CC rating ("obligations which are highly speculative or which have a high risk of default"). This rating is associated with a steep cost of 30% interest before tax. We assume, hypothetically, that SNIT could find private investors who are willing to buy these highly speculative bonds directly through a private placement offering. This translates to the five-year average prime rate of 5.45% plus 24.55%. Even after-tax deductibility the cost would be 21%, much higher than the company's hurdle rate of 16.34%, and hence not desirable for SNIT.

6.6 Other Types of Debt

Other categories of debt include:
1. hybrid debt-equity:
   (a) convertible equity bonds;
   (b) mezzanine finance;
   (c) preferred stock.
2. securitization;
3. vendor and buyer finance;
4. government loans.

6.6.1 Hybrid Debt-Equity

6.6.1.1 Convertible Bonds

Convertible bonds have properties of both debt and equity. A bond holder (the lender) can convert the bond into a stock at a certain point. This offers investors the relative safety of regular bonds but also the option of converting them to equity if the stock price goes up. Thus, they have a higher upside than a bond and a lower downside than a stock. This often leads to a lower interest rate on the bond, which makes them a cheaper option—in terms of cash outflows of interest—than regular bonds. Another advantage of convertible bonds is that they delay a firm's need to issue stock to raise capital and therefore postpone the dilution of existing shareholder control, and the associated downward pressure on the stock price.[57]

Here are some examples of this. In 2003, Sony issued $2 billion in convertible bonds to raise money to invest in the next-generation Cell microchips as well as to finance a restructuring plan. Sony set the conversion premium—convertible in 2006–2008—at a rate that was 48% higher than its then existent stock price.[58] Because of the upside potential, convertible bonds typically cost more than regular bonds, and Sony could sell them at a lower interest rate. What happened subsequently? Sony's average stock price for 2003 was $33.94, so a 48% premium would value the stock at $50.23. For much of 2007–2008 the stock was above that price. (At its peak, on May 22, 2007, it was $59.46, about 18% higher.) During that period, the price of the convertible bond was below the market price and it consequently made sense to convert. The bonds would have proven to be a good investment in the short term. Subsequently, however, the stock price dropped, to less than $10 in 2012. Thus, a bond holder who did not convert at that time would have avoided the huge losses that Sony stockholders took.

54 Besley, Scott and Eugen F. Brigham. *Principles of Finance.* Independence, KY: Cengage Learning, 2009.

55 Martin, Laura and Dan Medina. *Time Warner Inc (TWX): An Investment Analysis.* New York: Needham & Company, LLC, 2010.

56 Fitch IBCA. "Credit Ratings." June-November 2006. Last accessed July 19, 2012. ► http://www.tgbr.com/tgbr/cont/Credit_Ratings.pdf.

57 Cloutier, Richard. "Convertible Bonds: Pros And Cons For Companies And Investors." *Investopedia.* Last accessed May 18, 2017. ► http://www.investopedia.com/articles/bonds/08/convertible-financing.asp.

58 Pei-ling, Long. "Sony Shows Spark With New Issue." *Asiamoney* 14, no. 10 (Dec. 2003/Jan. 2004): 8-11.

In 2001, France Telecom issued convertible bonds worth $2.68 billion, because the stock market was depressed at the time and issuing new stock was therefore not a good strategy. When the market rose, the bonds could be converted by the lenders into stock. This option made the bonds attractive to investors and hence carried a lower interest rate for France Telecom than regular bonds.

In 2004, the major American cable TV firm Charter Communications issued $750 million convertible bonds to repay its considerable debt load. Its shares were traded at the time for a depressed price of $2.75. The idea was that investors could redeem the bonds by exchanging them later for stock, which was likely to have risen in price. But stock analysts quickly realized that the deal's conversion price for the bond would be $2.42 in 2009, a lower price than the stock price of $2.75 prevailing in 2004. The implication was that the company valued its growth prospects as weak and was willing to dilute shared ownership. In consequence, the stock plunged by 20%.[59]

6.6.1.2 Mezzanine Finance

Mezzanine financing was originally developed in the UK in the mid-1980s to provide a layer between debt and equity. It is a hybrid that gives the lender the rights to convert a bond into stock if the loan is not repaid in time and in full. In other words, the lender then becomes an owner. In bankruptcy, the holders of mezzanine loans are ahead of common shareholders in repayment. Even with the conversion feature this debt is riskier than senior debt, and hence costlier by 1–3%. Mezzanine finance is useful in financing buyouts, acquisitions, and recapitalizations.

For example, in 2004 International Finance Corporation, part of the World Bank, arranged for a loan to TV3 Russia, a terrestrial broadcaster. TV3 Russia issued $7 million in secured senior loans and $3.5 million in mezzanine financing.[60] The mezzanine structure was used to compensate the bondholders (lenders) for the risk they were assuming. TV3 Russia was expected to grow quickly with a correspondingly rising share price. When that happened, the bondholders could convert into stock. The mezzanine structure therefore offered upside to the investors. Unfortunately, this did not work out. Following the economic downturn in the late 2000s the profitability of the company dropped severely. It had over $80 million in mezzanine debt whose interest TV3 could not pay, and its share price tanked. In 2013 the company was sold to the Russian energy giant Gazprom.

In 2006, Casema, a major Dutch provider of cable TV, internet, and phone services, issued €1 billion of mezzanine debt. This was a mechanism for the buyout of Casema by several major PE firms,[61] who partly financed that acquisition by borrowing against the acquired company itself. The mezzanine arrangement then gave lenders the upside potential of equity.

6.6.1.3 Preferred Stock

There are two major types of preferred stock: preferred stock that grants extra voting rights and preferred stock that receives priority in receiving dividends. The latter is a hybrid of debt and equity. It typically pays a specific dividend. It is similar to a corporate bond except in bankruptcy claims, where its priority is behind regular bonds though ahead of common stock, and does not want to overload debt. Preferred stock might be issued when a company is under financial stress. Preferred stockholders get priority before common stockholders in case of company liquidation, and might therefore be attracted.

Preferred stock receives dividends ahead of regular common stock. If no dividends are paid in one year, the obligation passes on to the next year if it is cumulative. These features, however, put downward pressures on the price of regular stock, because they might receive lower dividends.

An example is part of a 2005 restructuring agreement for the home video rental chain Blockbuster in order to reduce its massive debt, in which preferred stock was issued at $1000 per share, paying out a dividend of $18.75 per quarter.[62] These preferred shareholders received $300 in dividends over the years 2006–2009, but then lost all equity after Blockbuster declared bankruptcy in 2010.

6.6.1.4 Case Discussion

Convertible Bonds

TWIT

To finance TWIT with a convertible bond would lower cost by typically 1–3% below a straight corporate bond.[63] The corporate long-term bond interest rate for Time Warner is rated BBB, at 6.9%. A convertible bond issued by a quality firm such as Time Warner will offer a 1% discount, that is an interest rate of 5.9%. This translates to the five-year average prime rate of 5.45% plus 0.45%.

Here, too, we assume that Time Warner will stay within its debt-capital ratio of 33.3%, in other words limiting borrowing up to $333 million for the TWIT project, while the rest must be raised in other ways.

SNIT

SNIT would not be able to sell the hybrid debt on the open market without a credit rating and without a publicly traded stock to convert into.

59 Farzad, Roben. "Charter: Cable's Sucker Stock." *Bloomberg Businessweek*. May 28, 2006. Last accessed July 19, 2012. ► http://www.businessweek.com/stories/2006-05-28/charter-cables-sucker-stock.

60 International Finance Corporation. "Global Reach and Developmental Impact." Last accessed October 31, 2011. ► http://www.ifc.org/ifcext/gict.nsf/Content/Global-ReachandDevelopmentalImpact.

61 Gutscher, Cecile. "Investors scramble for mezzanine seats." *International Herald Tribune*. January 18, 2007. Last accessed July 19, 2012. ► http://search.proquest.com/docview/318798383.

62 Spielvogel, Cindy. "Blockbuster secures quarterly dividend." *Video Business*. October 23, 2006. Last accessed June 21, 2007. ► www.videobusiness.com/article/CA6384088.html.

63 Schroders. "The Case for Convertible Bonds, Opportunities in Convertible Bonds." July 2008. Last accessed July 19, 2012. ► http://www.schroderstalkingpoint.com/files/2008_July_the_case_for_convertibles.pdf.

6.6.2 Securitization

6.6.2.1 Why Securitization?

Artists often have a problem: intellectual property (IP) is difficult to securitize. Intellectual assets are potentially valuable, but they are illiquid, and traditional lenders do not consider IP as collateral. Yet independent music producers, artists, and labels must borrow capital to fund the production of their work, its promotion, as well as their lifestyle. To deal with this situation the technique of securitization has emerged. Securitization allows the creator or her successors to keep 100% ownership of the assets while selling the rights to income from the asset. The singers David Bowie, Elton John, Sting, and others issued publicly traded bonds, using future album revenues to pay back that debt. David Bowie issued (i.e. borrowed) $55 million and James Brown issued $30 million. By buying such securities, banks and investors lend against a future stream of bundled cash flows. These cash flows can include music royalties, projected movie revenues, and long-term telecom traffic agreements. The artist sells these royalty rights to a company, usually known as a special purpose vehicle or entity (SPV or SPE), for a lump sum payment,[64] and the SPV issues bonds to investors. The SPV can also pool the rights of several artists, aggregate their revenue streams, and then package them as debt securities and sell them to institutional investors. The SPV holds title to those assets and collects and dispenses the proceeds generated from those assets to make the principal and interest payments to pay back the investors who financed the initial asset purchase.

In book publishing, too, securitization deals have been used to borrow money. Bonds have been issued by John Steinbeck's estate based on the future income of books such as *The Grapes of Wrath*. For films, securitization has been used by borrowing money and pooling a slate of movies such that their future revenue streams cover payment on the debt. Disney issued such a $400 million, seven-year bond in 1992, with its interest rate tied to the revenues from a combination of 13 Disney movies released in Europe.[65] When the films did not do well, repayment of the bond interest and principal slowed. This helped smooth Disney's earnings flows. But such a hybrid proved unpopular with Disney's investors since its income was unpredictable.

Securitization has also been used for other media and tech financing. Radio station acquisitions are an example. Before the 1980s, radio stations in the USA had trouble financing acquisitions. They could not use their broadcast license—the most valuable asset of a station—as collateral for bank loans, making banks reluctant to lend. Eventually, radio entrepreneurs found a different way to access the credit markets. Companies such as Infinity, Clear Channel, or Hicks Muse financed their borrowing by securitizing their future earnings. They used this money to buy up additional radio stations and pledged their future earnings in turn toward future acquisitions. This resulted in large station groups.

In telecoms, the large European phone company Telecom Italia used receipts from telephone bills as collateral against issuing bonds in 2001. It was Europe's first public telecom securitization. Deutsche Telecom and France Telecom soon followed. They issued securitizations of $2–3 billion each.[66]

The reason why some very large companies have used securitization to raise money, as opposed to a straight issue of bonds, is that it is a type of off-balance-sheet financing. Neither the debt nor the assets securing the financing appear on the company's balance sheet, because they reside in the SPV. By removing this debt from the balance sheet, securitization improves some companies' financial ratios.

The cost of securitization is directly influenced by the quality of the assets being securitized. The lower their quality, the higher the risk of default and the higher the required interest payment. It can be difficult to estimate the true overall cost of a securitization. This cost may not be totally understood until the end of the securitization process and until taxes are due. The cost of a securitization includes the interest cost of the debt, the issuance expense of the debt, structuring fees, tax advice fees, rating agency fees, and management's time.[67] Therefore, the main problem with securitization is that it is an expensive way to raise money. Including transaction costs, small-scale securitization such as those of artists and their estates can have an estimated price tag of 25%. Thus, the "Bowie bonds" approach never became a major factor in the music industry. But in situations where artists (or their heirs) want the money quickly, with little regard to the cost, this approach can be picked.

What is the impact of securitization financing on content? It favors established artists and firms with a track record of regular income streams, as our examples show. It disfavors new, risky, and innovative content or technologies whose income streams are unpredictable.

64 Kane, Sean F. "Securitization May Work Beyond Music Royalty Income Stream." *Entertainment Law & Finance* 19, no. 5 (August 7, 2003): 1-3.

65 Chance, Don M., Eric T. Hillebrand, and Jimmy E. Hilliard. "Pricing an Option on a Non-Decreasing Asset Value: An Application to Movie Revenue." Working Paper. Louisiana State University. December 16, 2005. Last accessed May 17, 2017. ► https://www.fdic.gov/bank/analytical/cfr/2006/apr/chh_movies_021.pdf.

66 Willams, Thomas. "Italian first points to bright future for telecoms securitization." *International Financial Law Review* 20, no. 8 (Aug. 2001): 22.

67 Dong, Yan. *Analysis on Cost of Securitization and Its Implication on Asset Quality Deterioration in Banks with Empirical Evidence*. Ph.D. dissertation, University of Essex, UK, and Southwestern University of Finance and Economics, China, 2007.

6.6.2.2 Case Discussion

Securitization

TWIT
TWIT itself does not have assets that generate the predictable cash flow needed to support a securitization. Time Warner, on the other hand, has cash generating assets with stable revenues that could be securitized, but this funding source can be complicated and costly.

We assume that the company decides to securitize receivables from payments for its cable channels. Basically, it loses the income from the assets set aside for the securitization. The interest rate that it would have to pay is dependent on several variables. We assume that the securitization would be rated BB, a few notches below the company's corporate credit rating of BBB. A securitization with this rating has an interest rate of about 10.25%.

The company is unlikely to want to spin off too many assets to generate the cash flow necessary to cover the securitization of a $1 billion program. Transferring cash generating assets of that magnitude to the SPV would directly affect its future earnings required for dividends. As before, we therefore assume that the ceiling amount for such a form of securitization would be the capital value of not more than one quarterly dividend.

SNIT
Owing to its lack of cash generating assets or proven history of revenue generation, SNIT could not employ securitization to finance itself.

6.6.3 Vendor and Buyer Financing

6.6.3.1 Factors for Vendor Financing

Quite frequently one of the partners in a transaction grants credit to the other in order to conclude a deal. It is usually the seller who extends such financing to the buyers. For example, a computer maker may entice an animation production company to select its computers for its render farm. In other cases, it is the buyer who lends money to the producer; such as when a film studio or a TV network provides financing for a film which they will later distribute.

Short-term trade credit is quite common, where a seller gives a buyer a few months to pay. But such trade credit can be expensive to the buyer (the borrower). A typical arrangement requires full payment in 30 days. There is often a 2% discount if payment is made within the first ten days. The implicit interest rate is therefore 2% for 10 days, or a stiff 72% a year.

Ordinarily, a strong dependence on trade credit implies that a firm has a relatively weak access to bank credit, However, in certain situations a firm's good trade credit record with its vendors may provide a positive information to banks and actually increase the chances of the firm's obtaining a bank credit. The company's creditworthiness is particularly important if the business has yet to be developed or show any profits.

More interesting is long-term vendor credit. Often this is used as a sales tool and can then be cheap, with sellers extending a long-term credit or other favorable terms to clinch a sale. They often have advantages over financial institutions in extending such credit because they have better private information about the business and the buyer. They may also be able to use leverage in terms of withholding future supplies, and they may be better positioned to repossess or resell collateral.[68]

Long-term vendor financing has been actively used by new entrants in the telecommunications industry. These new entrants approached large hardware vendors such as Nortel and Lucent to finance equipment purchases for their telecom networks. Such suppliers charged them interest rates of around 3% per year. This rate was very low relative to the risk involved and to the economic and technical depreciation of the hardware. Such vendor financing shifted much of the business risk to the hardware vendors. When the telecom market collapsed the vendors were left with lots of claims against bankrupt companies. They could repossess the equipment, but what could they do with two- or three-year-old used hardware at a time when a major overexpansion bubble burst? Neither Nortel nor Lucent, once the darlings of Wall Street when their sales (partly financed by themselves) ballooned, survived for long.

Vendor financing (or its sibling buyer financing) has existed for film and theater for a long time, under various names. In film production, vendor/buyer financing includes funding (or loan guarantees) from studio distributors, theatrical distributors, and others. The quid pro quo of a presale financing deal is usually the licensing of the film's rights to a media distributor within a specific territory or technical platform, or both. Photo laboratories, too, used to provide credit in order to enable the production of a film that would generate a big print order later.

68 Berger, Allen N. and Gregory F. Udell. "The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle." *Journal of Banking and Finance* 22, no. 6-8 (1998): 613-673.

One reason for vendor financing in film is to alleviate the problem that economists call the "moral hazard." The director and other creatives are driven to gain a professional reputation, but in the process they may increase the overall cost and risk of a particular project. Banks tend to be too far removed from the production project to monitor this. That is why financing is mostly done by firms close to the film industry. These firms know the industry and the major players. They have repeat business with the producer, director, and artists,[69] which discourages the creatives from spending irresponsibly. Talent agencies, too, can be considered vendors. They are "selling" their clients to the producers to place them in a desirable film. They often also arrange for the financing of such a film through various vehicles.

The classic film financing deal is a studio PFD deal (production–finance–distribution). The distributor (the studio) as the buyer agrees to lend to the producer part of the cost of production, that is, to finance it (the F). Production (the P) will often use the studio's facilities, for which the production budget will be charged, and repaid when box-office revenues start rolling in. Here, the studio is the "seller" of production services. The studio also manages the distribution (the D) to services exhibition channels. These expenses are charged to and paid for by the film's budget, with interest for the loan.[70]

One alternative to such vendor (distributor) financing is a straight purchase contract. As we discussed, this is known in the film business as a negative pick-up deal, in which the distributor pays for a completed film rather than by funding the production process itself. ("negative" refers to the photographic negative, not to a quality assessment). A negative pick-up letter is a commitment to purchase or license film distribution rights post-production. The independent producer/borrower uses the letter as collateral, to borrow production funds from a bank. The producer gets more independence in creating the film, without having to worry about distribution while making the movie. The studio distributor, on its part, does not have financial exposure if the producer fails to finish the film or if it runs over budget.

Table 6.4 summarizes main forms of film financing methods by a studio distributor. The first row is a studio development deal, in which the studio, in effect, self-produces and

Table 6.4 Financing methods for film production

Type of finance	Description
Studio development deal	Distributor participation in earliest stage before all elements in place. Producer is possibly the employee of the studio
Studio-based independent production company	Independent company has headquarters at studio. Studio totally finances the company's productions.
Studio financing/distribution deal	Producer comes to studio with a fully developed package. Studio finances production
Negative pick-up deal	Studio agrees to pay for the movie once it is finished in production. Producer uses guarantee from studio as collateral for a bank loan. Studio retains ancillary rights
Co-financing	Studio pays for part of the cost. Producer finds financing for the rest. Studio does not retain all rights to film. Producer usually owns negative
Overseas presale	Producer sells overseas and/or video rights to film. Uses advances to finance film without obtaining a domestic distributor
Long-term independent finance	A producer arranges financing for a whole slate of films through an independent production company he/she runs
Single film independent investor finance	A producer arranges independent investor financing, such as a limited partnership, just for one film.
Self-finance	Producer finances through personal savings, credit cards, and/or family; primarily limited to small independently distributed films

Fee, Edward. "The costs of outside equity control: Evidence from motion picture financing decisions." *Journal of Business* 75, no. 4 (2002): 681–711

69 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce.* Cambridge: Harvard University Press, 2000.

70 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce.* Cambridge: Harvard University Press, 2000.

self-finances. The second row is a semi-independent studio-backed independent production company. Each subsequent row has a greater arm's-length distance between distributor and producer.

6.6.3.2 The Impact of Vendor Financing on Content

Arranging advance financing favors established producers with experience, contracts, and a proven track record. The selective availability of financing by distributors give these distributors significant influence over content, with the advantage going to established projects over truly independent producers. It is important to note the difference between being independently financed and being independently distributed. Independently financed films are sometimes studio distributed, but not the other way around. Independently financed films may get enough funding to be produced but then lack distribution. In the UK, several hundred films a year are made but not distributed. The major studio distributors are likely to push harder in the marketing for films in which they have a financial stake, which gives such films a greater visibility. Distributors generally retain final cut rights—control over editing—for most films they finance. This allows them an opportunity for drastic changes to a film in order to make the film more commercially successful, which typically means happy endings, less ambiguity, and less controversy. Studio financing can also come with strict procedures. Sometimes studios demand cast approvals, script change approvals, and daily screenings. With studio financing, the studio usually owns the negative and can exploit the film's future in new media. With independently financed films, film-makers tend to retain ownership.

Financing contracts with major studios usually requires a producer to moderate the content in terms of sex and violence to obtain a rating of NC-17 or lower. X-rated films will fail such a test. Financing contracts also specify minimum technical quality standards such as audio and video quality. A financing contract will specify a budget and a deadline, and require insurance against deaths, lawsuits, and damage.

■ Examples of Studio Intervention

The film *Mr. Jones* (starring Richard Gere), was a dark drama on the relationship between a manic-depressive man and his doctor. It tested poorly with audiences. The TriStar studio which financed the film demanded the recut of the movie to deemphasize Gere's depressive aspects. When writer/director Mike Figgis refused, TriStar exercised its control and replaced him.[71]

In the movie *Rain Man*, a scene showed Dustin Hoffman's character shouting airline crash statistics. The studio (United Artists) was pressured by the airline industry to cut the scene since the statistics were damaging but also inaccurate. The director Barry Levinson argued that the scene was crucial to the film, but the studio had contractual rights and edited out the offending scene for the version shown on these airline flights.

There is another side to stories like this. Directors can be profligate with other people's money in order to enhance their artistic reputation. For example, Michael Cimino's *Heaven's Gate* overran its budget by three times and bankrupted United Artists Studio, which had been founded 60 years earlier by film legends Charlie Chaplin, Mary Pickford, Douglas Fairbanks, and D.W. Griffith.

Another example is director John McTiernan, who had the final cut privilege on *Last Action Hero*. The film had a high budget yet did poorly at the box office, and its soundtrack actually netted more income than the film itself. It was such a disaster that McTiernan was still hiring and firing editors just three weeks before the film was due in the theaters.[72]

Similarly, an advantage to presale financing by TV channels or foreign distributors is that such lenders usually do not require creative control beyond general ones such as the film rating.

Studio agreement to finance a film leads to a contract that includes a "development deal memo" that outlines the various next steps.[73] The studio pays incrementally as each step is completed. At certain steps, the studio has the right to stop its funding and financial exposure. In effect, its commitment is not unconditional but for the next step, with an option for subsequent steps.

Vendor financing of media and digital activities is most developed in the film sector, perhaps because its funding requirements are largest among content media. It is also used, to some extent, for video games, music, and book publishing (when printing companies extend credit to small publishers. In the tech sector it is used for hardware. A computer firm, for example, can finance the developer of an advanced semiconductor chip in return for an early delivery of this technology.

Such deals are less common for software, though similar arrangements are quite possible and likely as the scale of independent software production rises and with it the funding requirements. More generally, as the entire value chain of design-development-production-distribution decomposes from in-house centralization to a decentralized network system, the financing by partners of each other will increase.

71 Fee, Edward. "The costs of outside equity control: Evidence from Motion Picture financing decisions." *Journal of Business* 75, no. 4 (2002): 681-711.

72 Griffin, Nancy. *Hit and Run.* New York: Touchstone, 1996.

73 DiGregorio, Jr., Robert, C. "How to Finance Your Film: Part 2." *New England Film*, November 1, 1998. Last accessed May 17, 2017. ► https://newenglandfilm.com/magazine/1998/11/how-to-finance-your-film-part-2.

6.6.3.3 Case Discussion

Vendor Financing

TWIT
For TWIT's tech, hardware vendors could contribute financing in order to boost sales for their firms. An established company could expect vendor financing at an interest rate of about 7.0%.[74] But TWIT's vendor financing would be limited for hardware upgrades to its network infrastructure, budgeted at $300 million. Of this amount $250 million would be available as vendor finance with $50 million expected to be covered by the buyer as a down payment. TWIT itself has the potential to presell its content to interested distribution platforms such as cable TV and telecom broadband operators, and online video sites such as Netflix, YouTube, or Hulu. It will be hard to presell TWIT's interactive video content because the product is new and unproven for buyers.

SNIT
SNIT would have some access to vendor financing for its hardware purchases. Beyond the 30-day vendor credit, vendors would typically charge start-ups such as SNIT 10–15% interest. SNIT's initial hardware acquisitions are estimated to be $30 million. Hardware vendors might finance half of this amount ($15 million).

6

6.6.4 Lease Finance

6.6.4.1 Factors in Lease Financing

Using leaseback arrangements as a source of financing has become a popular vehicle. This is typically done when a company, instead of purchasing an asset, enters into a long-term lease with the seller. Such leasing frees cash for other purposes. It reduces the debt on a company's balance sheet and enables the firm to take on debt for other purposes. On the consumer level, such a lease arrangement is popular for automobiles. And, of course, anyone who rents an apartment rather than buying it is involved in a lease transaction. In the USA equipment under lease accounts for nearly one-third of the annual overall new equipment investment.[75]

For the seller, leases can be used as a tool to improve sales. They can also serve as an arbitrage of the credit risk. A seller may have a better credit standing than the potential buyer/lessee and thus pay a lower interest rate. Participants can transfer risk to the corporations that can better handle that risk and handle it inexpensively. These deals can also transfer tax benefits among companies, from the highly tax-burdened to the lightly taxed. Other advantages are:

- Payments are fixed and predictable.
- There is a match-up of payment outflow with the productive life of the asset.
- The equipment may be maintained, managed, and replaced by the owners, and this is convenient.
- There is flexibility in the amount of the hardware used, according to the user's needs.
- There is often no down payment requirement.

Lease contracts can be securitized, with the lender financing the leasing company to obtain financing while receiving the revenue stream of their leases. These securities can be bought by financial institutions. Leasing thus enables financing by sophisticated financial instruments.

Organizations that offer equipment leasing are most often subsidiaries of manufacturers but also financial institutions such as banks and insurance companies. An equipment maker can align itself with a leasing company to increase its sales and also obtain buyer financing. The leasing company then basically becomes the vendor's "in-house" major finance company.

As an example, the Boeing company, best known for its aircraft but for a while also producing digital film projection equipment, offered it to movie theaters on a lease basis as a sales tool to boost sales and make it the industry standard.[76]

In telecoms, the leasing of network equipment has been popular with new entrants and internet service providers. Established firms have also used leasing. For example, Time Warner Cable upgraded its UK network facilities through various leases of network equipment.[77]

A variant form of a lease is a sale and leaseback. Here it is the party that wants to keep using the asset that makes the sale to the lessor. In a sale and leaseback deal, Company A sells its asset to Company B. But A wants to keep using the asset. B then leases the asset back to A. It is like an owner of a house selling it to someone else, but staying in the house as a tenant of the buyer. This type of transaction enhances cash flow for the lessee (the tenant), because she receives an up-front payment for the asset. Leaseback deals are also used for tax shelter purposes for the user because each lease payment is considered an operating expense and is therefore tax deductible. Sale and lease-back transactions help firms to utilize the asset without tying up large amounts of capital.

For example, in 2007, XM Satellite Radio, the world's largest satellite radio operator, entered into a sale-and-leaseback agreement with Satellite Leasing LLC. XM sold its XM-4 satellite transponders for $288.5 million for a period of nine years, with a buy-out option in year five and at the end of the term. Satellite Leasing LLC then leased the XM-4 back

74 Nevitt, Peter K. and Frank J. Fabozzi. *Equipment Leasing*, Fourth Edition. New Hope, PA: Frank J. Fabozzi Associates, 2000; Mitcham Industries, Inc., Form 10-K, April 6, 2011. Last accessed May 17, 2017. ► http://www.faqs.org/sec-filings/110406/MITCHAM-INDUSTRIES-INC_10-K/.

75 Sharpe, Steven A. and Hien H. Nguyen. 1995. "Capital Market Imperfections and the Incentive to Lease." *Journal of Financial Economics* 39, no. 2-3 (1995): 271-294.

76 Matthews, Anna and Bruce Orwall. "Bit Players: major studios discuss plans to equip theaters to show digital films." *Wall Street Journal*. May 17, 2001. Last accessed May 17, 2017. ► http://proquest.umi.com/pqdweb?did=73072636&sid=10&Fmt=3&clientId=15403&RQT=309&VName=PQD.

77 Time Warner. 2005 Annual Report. April 4, 2006. Last accessed May 17, 2017. ► http://www.wikinvest.com/stock/Time_Warner_(TWX)/Filing/DEF_14A/2006/F1298357#toc94223_3.

to XM. This allowed XM to benefit from a large injection of cash to help with its money-losing operations. The sale-and-leaseback deal also offered XM Satellite Radio tax benefits since lease payments are considered tax-deductible operating expenses. XM retained the advantage of using the XM-4 satellite and it maintained full operational control over the transponders.[78]

In the film business, sale to outside investors and leaseback deals are used to mitigate risk and lower tax burdens. These deals often involve an entity such as a limited partnership buying the ownership of a film from its producer, then leasing it back at a prearranged payment schedule, thus creating a fixed stream of revenue for the lessor's investment. Just as important, the film's initial purchase, at a time when there is no income flowing back, creates a major loss—for tax purposes—for the partnership, and this can considerably reduce the taxable income of high-income investors.[79]

6.6.4.2 Case Discussion

Lease Finance

Both Time Warner and SNIT could lease the equipment needed for TWIT's operation. The monthly lease payments are a tax-deductible business expense. TWIT's budgeted upgrades to its network infrastructure are $300 million, and we assume that half of this can be leased. The lease, we assume, is available at a cost that translates to an interest rate of 7.5%.

SNIT

SNIT, too, could use lease financing. SNIT's estimated hardware budget is $30 million of which half is of the kind that can be leased. SNIT thus has $7.5 million dollars available to it at the cost equivalent to 15% interest.

6.6.5 Government Financing

6.6.5.1 Methods of Government Support

Governments around the world are important sources for the financing of media and information technology. This help is typically extended through direct grants, tax benefits, and loan guarantees. Indirect financing support can be given through protectionism and favorable regulatory policies that make a project more profitable by enabling a company to charge higher prices.

Film is particularly favored as a recipient of cultural subsidies. (This was discussed in ► Chap. 3.) The European Union's Commission supports films to the tune of €1.6 billion per year. In France, the Centre Nationale de la Cinematographie (CNC) spends over $100 million per year financing films. France also offers tax incentives for the film industry and its investors.[80]

In the UK, too, wealthy investors can benefit from tax breaks for financing films. There are at least two tax-saving ways to invest in films. The Section 48 scheme allows investors to write off their investment against their income tax bill in a single year, and this defers the tax payment. Another way is an Enterprise Investment Scheme (EIS). An EIS shields the investment from income tax, offers inheritance tax relief, and can defer capital gains tax from a previous investment.[81] In 2006 the UK introduced another tax incentive for film production, available to producers rather than pure financiers. For smaller films (production costs below £20 million) the tax deduction is equal to 100% of total qualifying UK expenditure, and for other qualifying films up to 80% of total qualifying UK expenditure.[82] In the next two years, the UK Treasury provided around £100 million a year-worth of tax credit to British films, supporting more than 100 productions.

In addition to the tax incentives, The UK Film Council uses profits from the National Lottery to directly fund films. The British government also used an All Industry Fund supported by contributions of 0.5% of revenues from all film companies, exhibitors, distributors, video companies, and broadcasters. A Skills Investment Fund was created through contributions from all films in production. If a film or its production crew is established in the UK they must contribute about 0.5% of total budget production. While contributions were voluntary, receipt of other public-sector funding was conditional on contributing.

In Australia, government money makes up around 37% of overall film investment.[83] In Canada, the government subsidizes film production directly through the National Film Board. Canada also has rules in place that require that 60% of scheduled content on television must be Canadian, the definition of which has led to an elaborate point system. Canada provides an 18% refundable tax credit on labor costs, with no cap. The provinces of Ontario and British Columbia add another 18%. Manitoba even offers a 45% credit for labor costs.

In Germany, until 2006, tax laws permitted the immediate tax deduction from taxable income of the cost of creating "intangible" assets.[84] Investors could thus immediately

78 XM Satellite Radio Holdings. Form 8-K. Filed February 13, 2007. Last accessed May 17, 2017. ► http://www.secinfo.com/d14D5a.uT7j.htm.

79 Richards, Matthew. "Lights, camera - and action for small investors." *Financial Times*. December 2, 2006. Last accessed May 17, 2017. ► http://www.ft.com/cms/s/0/a5e45982-81a9-11db-864e-0000779e2340.html.

80 These tax shelters allow investors to write-off 40% or more of their investments against their taxes; subject to the upper limit of 25% of taxable income, and subsequently capped at €18,000. If such an entity, known as a SOFICA, uses 10% of its investment capital to acquire shares of production companies, then this deduction increases to 43%. Production companies may immediately write off 50% of the amount invested. Another major support mechanism is the quasi-monopoly status of the pay-TV provider Canal Plus, whose high consumer prices generate revenues that must be partly used for domestic film support.

81 Richards, Matthew. "Lights, camera - and action for small investors." *Financial Times*. December 2, 2006. Last accessed May 17, 2017. ► http://www.ft.com/cms/s/0/a5e45982-81a9-11db-864e-0000779e2340.html.

82 HMSO. "Finance Act 2006." *Legislation.gov.uk*. Last accessed May 17, 2017. ► http://www.legislation.gov.uk/ukpga/2006/25/contents.

83 Hancock, David. "Global Film Production." Working Document for Venice Conference held by EURO-MEI on August 29-30, 1998.

84 Epstein, Edward J. "How to Finance a Hollywood Blockbuster: Start with a German Tax Shelter." *Slate*. April 5, 2005. Last accessed July 20, 2012. ► http://www.slate.com/id/2117309/

write off the entire cost of producing a film. Only later, when income came in, was it taxed. Such tax deferral is highly lucrative. This was very different from other tax systems, such as in the USA, which require the cost of creating a film to be amortized over a number of years or as a percentage of revenues received. On a "leveraged" deal, with high debt on top of actual investment, if the debt-to-equity ratio is over 1:1 the German tax law made it possible for the investors to immediately get back more in tax savings than the amount of the backers' actual cash investment.

The German law also did not require that the film be shot locally or employ locals in order to reap the tax benefits. The film just needed to be owned by a German company that shared in the film's profits. These loopholes made it possible for a Hollywood studio to benefit by the establishment of a German subsidiary. A sale-leaseback model was typically used. The Hollywood studio would sell the film rights to a German company/fund, which financed the film's production budget by borrowing funds from investors, that were supplied/guaranteed by the Hollywood studio. In other words, the film was conceived, organized, managed, produced, and partly financed by the Hollywood studio. The German film fund company that had bought the film then leased the film rights back to the studio in return for fixed payments over time. The Hollywood studio slightly circumvented the full cost of the repayment by depositing an upfront fixed amount with a bank. This amount deposited in the bank was less than the amount invested by the German film fund. The resulting take for the Hollywood studio was, in many cases, 10% of the film's budget without any financial risk whatsoever. If the film surpassed certain box office benchmarks, the Hollywood studio had to pay back a percentage of the profits to the German fund.

German tax shelters were used to finance New Line Cinema's *Lord of the Rings* (which also benefited from subsidies from New Zealand). When Paramount wanted to make *Lara Croft: Tomb Raider* it sold the film rights to a group of German investors for $94 million through the Tele München Gruppe. It entered into another agreement with Lombard Bank in Britain to raise $12 million using incentives set up by the UK government.[85] It also raised $65 million from presales in Europe and $7 million from pay-TV presales in the USA. *Tomb Raider's* substantial budget came to over $115 million, but very little if any came from Paramount's own financial resources.

As mentioned earlier in this chapter, for the film *Laws of Attraction* the $45 million budget was raised with 15% from a German tax shelter fund, 8% from Irish tax incentives, and a 15% UK sale leaseback deal based on a tax shelter. These three government incentive programs thus added up to 38% of the film's budget. The remainder came from a US distributor (New Line, 20%) and 32% from non-US presales. Only 10% had to come from the production group itself.

In 2006 the Berlin government set some restrictions on this tax shelter largesse financed by the German taxpayers. It required that the tax law only apply to native German filmmakers and production companies operating and spending money within Germany.

Government funding may also be available for video games. This is important because game development budgets can exceed $20 million. The French government, in particular, views video games as important for culture and technology.[86] In 2003, France created the École Nationale du Jeu Video et des Média Interactifs to train programmers and managers. It also created a subsidy fund and instituted a tax credit. All major candidates in the 2007 presidential election promised to back the gaming industry. The winner, Nicolas Sarkozy, instituted a variety of support activities and pressured the European Commission to accept such otherwise banned economic subsidies.

In the USA, too, there is a well-established system of government finance of media and high tech. When it comes to taxes, on the federal level this is done through a variety of agencies and programs:

- The Small Business Administration (SBA) may issue direct loans and loan guarantees to small companies (fewer than 100 employees and average annual sales for the preceding three years of less than $5 million).
- The National Telecommunications & Information Administration offers grants to public and non-profit organizations. Its Technology Opportunities Program offers grants equivalent to $20 million. (Billions of dollars more were temporarily made available at the time of the 2008 downturn as part of a more general stimulus package.)
- The Rural Utility Services uses $100 million in low-cost Treasury rate loans to finance the construction of broadband telecommunication services in rural areas.
- The National Endowment for the Arts supports art creation, performance, and education, such as for dance, theater, opera, visual arts, and so on. In 2011, its budget was $154 million. The money supports direct grants, and about 40% is channeled to state and local arts agencies.
- The Corporation for Public Broadcasting is technically a private not-for-profit organization created in 1967 to funnel government money to public TV and radio. Though small by European, Japanese, or Korean standards, it is public broadcasting's largest single source of funds, and it supports over 1000 local public radio and television stations.[87]
- At the Federal level, the tax reform of 1986 eliminated the most advantageous tax shelters, including for film.
- Tax benefits are frequently offered by state and local governments. Louisiana gives 15% in state tax credits that

85 Epstein, Edward J. "How to Finance a Hollywood Blockbuster: Start with a German Tax Shelter." *Slate*. April 5, 2005. Last accessed July 20, 2012. ► http://www.slate.com/id/2117309/.

86 Crampton, Thomas. "For France, Video Games are as Artful as Cinema." *New York Times*. November 6, 2006. Last accessed May 17, 2017. ► http://www.nytimes.com/2006/11/06/business/worldbusiness/06game.html.

87 Corporation for Public Broadcasting. "About CPB." Last accessed July 18, 2012. ► http://www.cpb.org/aboutcpb.

are transferable (i.e. with the ability to sell to third parties), plus a 20% tax credit on wages paid to Louisiana residents. By 2005 the amount spent on production in Louisiana had increased to $425 million, with the state providing $65 million in tax credits.

- Ohio provides film tax-credits of 25% non-resident wages and Ohio production expenditures, and 35% of Ohio resident wage production expenditures. $10–$30 million in credits are available annually. New York has various local incentives. There is a 10% tax credit or refund on a film project's spending if it takes place in New York State, and an extra 5% if the production takes place in New York City.[88]
- In California, Governor Arnold Schwarzenegger, himself a Hollywood figure, signed legislation creating tax credits for film and television productions. The California Film Commission has the authority to allocate $100 million of tax credits each year. $10 million of the tax credits is specifically for independent productions.[89] The tax credit program covers 20% of "below the line" expenses for productions of up to $75 million. This can be augmented to 25% of expenses for independent productions of up to $10 million. To be eligible film and television productions must shoot at least 75% of their total days in California. The program aimed to prevent TV series from moving out of California. It was nicknamed the *Ugly Betty* tax credit, after a popular TV show that relocated to New York to take advantage of tax credits offered there.[90]

Film is not the only industry favored. Generally, entrepreneurial high tech is desirable as a clean and knowledge intensive sector with a high multiplier. Many states and countries have support programs.

6.6.5.2 Impact of Government Financing on Media and Tech Firms

The aim of governmental support programs is partly economic, partly cultural. Where the private sector funding for media content underserves significant groups or tastes, the public sector may generate additional money to create such content.

Where financing comes from governmental organizations, it will often come with strings attached. A Portugal-financed film might require scenes in that country, which might have a clumsy fit. In other cases, a country's heritage must be treated with respect. For assisting with the film *Gandhi,* the Indian government mandated script changes and other modifications.[91]

When it comes to tax advantages, given the various approvals and greenlights from agencies across multiple countries that need to be assembled, it would be difficult for a small artsy film to create complex funding packages. A German investor tax shelter consortium, for example, would probably not be interested in a low-budget film. The high transaction and legal costs of such highly involved deals would consume the profits and tax advantages from a leaseback agreement.[92]

6.6.5.3 Case Discussion

Government Financing

TWIT
Government funding is an option even for a large company. Time Warner Media could receive state and local support in the form of subsidies for loans with an interest cost of around 2% below the prime rate for equipment and in-state software development. There will also often be tax credits against its state and local taxes. The government programs typically have a ceiling, often $10 million, and a subsidized interest rate of 2% below market rate. With prime rate averaging 5.45%, the subsidized rate comes to 3.45%. The funding often comes with locational requirements, which may raise some of TWIT's operational costs.

SNIT
SNIT too, could secure state and local grant subsidies of about 10% of the costs for tech equipment and infrastructure costs, in the form of low-interest loans.

Another alternative is for SNIT to apply for a Small Business Administration (SBA) loan guarantee. But for a start-up with an unproven track record, such a guarantee will be difficult to secure.

6.6.6 Private Grant Financing

In some countries, in particular in the USA, direct government spending on cultural activities has been relatively low, but tax laws provide incentives for private grants and contributions. In the USA, 57% of the income of public broadcasting comes from private sources including foundations and donations. Corporate and individual funding to the arts exceed US federal funding considerably, and about 40%

88 Halbfinger, David M. "California Considers Tax Breaks for Filmin." *New York Times*. August 18, 2005. Last accessed July 20, 2012. ► http://www.nytimes.com/2005/08/18/movies/18runa.html?pagewanted=all.

89 California Film Commission. "California Film & Television Tax Credit Program." *State of California Business, Transportation, & Housing Agency*. June 2010. Last accessed October 31, 2011. ► http://www.film.ca.gov/res/docs/pdf/Tax-Credit-Guidelines.pdf.

90 Goldsmith, Ben. "California Approves Tax Breaks for Hollywood, Other States Change Tactics." *I Screen Studies*. February 2, 2009. Last accessed July 20, 2012. ► http://www.aftrsmedia.com/iscreenstudies/?p=189.

91 Grenier, Richard. *The Gandhi Nobody Knows*. Nashville: Thomas Nelson Publishers, 1983.

92 Epstein, Edward J. "How to Finance a Hollywood Blockbuster: Start with a German Tax Shelter." *Slate*. April 5, 2005. Last accessed July 20, 2012. ► http://www.slate.com/id/2117309/.

of private individual giving is paid for indirectly by the tax savings; that is, it is a "tax expenditure."[93]

However, corporate and private donations are not a stable source of financing since they decline in a business downturn. Moreover, corporations tend to use their funding as a way to enhance their national and local image and visibility, and as a way to network more effectively with high-level personalities. These underlying objectives make the contributions less likely to be a force for major cultural innovation.[94] Other factors that affect corporate giving are a company's relationship to the community, the culture of philanthropy prevailing in an entire industry, and the benefits to employee loyalty by matching their contributions to their favored causes.

Corporate giving is often based on industry structure and life-cycle. In their early growth phase companies have little money to give out. Thus, young internet dot-coms have been quite tight-fisted with donations. But once large fortunes have been made, philanthropy accelerates. An example is Bill Gates and his giving—meager in the growth phase and generous later. When the traditional three commercial TV networks ruled the US airwaves and were highly profitable as well as dependent on a favorable regulatory climate, they were lavish supporters of the arts. Similar generosity emanated from AT&T, Polaroid, and Xerox when they dominated their industries.

6.6.7 The Impact of Debt Financing on Content

In conclusion, debt financing reduces the risk-taking and innovation by companies relative to those prevailing with financing by equity. Lenders do not usually require profit maximization, only financial soundness—a high upside is not expected as long as the downside is low.

There is also an impact of short-term versus long-term debt. A company that must seek frequent refinancing is under greater performance pressure to do well in the short term. Such companies need to be non-risky, and non-controversial in their content, technology, and labor relations. In contrast, long-term debt allows for a greater time horizon for managers to create and innovate.

The public good characteristics of media, networks, and technology generate a major funding involvement by government in the finance of these activities. Such financing, too, tends to be supportive of non-controversial, relatively low-risk projects.

6.7 Risk Reduction Strategies

To gain access to funding or to lower its cost, one of the most important tasks for media and tech firms is to reduce the risk involved in their projects. There are several approaches.

6.7.1 Risk Reduction Strategy #1: Insurance

Insurance is the typical way in which individuals and companies lower their exposure to low probability, high impact losses.

- First, there is general insurance that protects against losses from unexpected calamities such as fire, weather, accidents, and so on. For a film production, such insurance costs usually run to about 1.5% of a film's budget.
- Directors and officers liability insurance covers alleged wrongful acts of an individual in the function of an officer or director of a company.
- Key person insurance can be important in start-up situations that are based on a central and irreplaceable person who might suddenly fall ill or worse.[95]

Completion bonds commit the guarantor to finance the completion of a project if it runs out of money. The policy usually kicks in if a project has run over a specific stated amount or date. For film completion, guarantors typically charge 6% of a production budget, with 2–3% rebated if the guarantee is not invoked. The guarantor rarely steps in, but it ensures financial prudence. As mentioned in Chapter 3 Production Management in Media and Information, one instance where the guarantor was called in to complete the funding of a film was *Brainstorm*, after the drowning death of its star, Natalie Wood. The budget had to be raised by $15 million, which was covered by the insurance. Completion bonds enhance the credit quality of a production loan and are often required by the lender.

- Media perils insurance policies protect publishers against IP and libel claims and lawsuits.
- Errors and omissions liability insurance protects against lawsuits based on mistakes and negligence.
- Networks and service providers use cyber/network liability insurance to cover the legal cost and parts of damages caused by negligence claims against a company for data leaks or crashed networks.[96]

6.7.2 Risk Reduction Strategy #2: Shifting Risk

A firm will try to shift financial risk to other parties, such as outside investors, as well as to partners, employees, contractors, distributors, vendors, lenders, and so on. To that purpose, deals are often structured so that the outsiders receive payments only after the company's own share has been taken care of. Risk is shifted to them by pushing their recovery to the later stages of revenues, which may never be reached.

93 Americans for the Arts. "Average Source of Revenue for Nonprofit Arts Organizations (Estimated)." Last accessed July 20, 2012. ► http://artsusa.org/pdf/get_involved/advocacy/research/2008/revsources08.pdf.

94 LeClair, Mark S. and Kelly Gordon. "Corporate Support for Artistic and Cultural Activities: What Determines the Distribution of Corporate Giving?" *Journal of Cultural Economics* 24, no. 3 (August 2000): 225-241.

95 Beever, Jennifer. "A Tech Startup's Guide to Navigating Insurance." *Startup Specialists Network.* April 29, 2013. Last accessed May 17, 2017. ► http://www.startupspecialistnetwork.com/a-tech-startups-guide-to-navigating-insurance.

96 Beever, Jennifer. "A Tech Startup's Guide to Navigating Insurance." *Startup Specialists Network.* April 29, 2013. Last accessed May 17, 2017. ► http://www.startupspecialistnetwork.com/a-tech-startups-guide-to-navigating-insurance.

Thus, it may be true as a general statement that 80% of films are not profitable, but the risk is much lower for the studios/distributors. While a film as a whole might lose money, the studio might still come out ahead financially because it gets the "first dollars" of revenues.

6.7.3 Risk Reduction Strategy #3: Diversification

Companies may internally pool multiple risky projects, making their aggregate cash flow safer. Similarly, a venture capital (VC) fund will bundle numerous projects for investment, and thereby reduce the overall risk through diversification.[97] For media firms, being active in a variety of films, music recordings, book titles, games, software programs, TV shows, content genres, and budget levels attracts a wide range of audiences and reduces a media firm's vulnerability to a flop in any one of them. Firms will thus spread their risk by operating in different media projects and industries.[98] Product diversity also generates information on developing market trends, and gives the company a better chance of hitting a moving target.

A second factor for portfolios goes beyond the averaging of risk. It is the assembly of a portfolio of assets whose performances are not independent of each other but are negatively correlated. This was discussed in ▶ Chap. 3, Production Management in Media and Information. The goal of diversification then is to reduce the risk of the portfolio as a whole, for a given return. Risk is defined as the statistical variance: a measure of the dispersion of the observations from the average (i.e., expected) value. The higher that dispersion, the greater the probability of ending up way above or way below the average; that is, the greater the volatility of outcomes and therefore the greater the risk. (A similar measure for risk is the "standard deviation," which is the square root of the variance. It is commonly depicted by the symbol σ.) Now suppose that if Event 1 happens, Project A goes down but Project B goes up. But if Event 2 happens, it is the reverse. Both of the projects, seen individually, are risky. But taken together their joint portfolio has a very low riskiness. Whatever happens out there, one of the assets will counter-balance the other's downturn.[99] The measure of how much two variables move together and counter to each other is their "covariance."[100] Its values range between 1 and −1. Values of −1 indicate perfect negative correlation. A value of 0 means that the returns on the two assets vary independently, and a +1 indicates a perfect positive correlation, which would make for a poor portfolio match. A strong positive correlation means that when one investment goes down, the other investment also declines. To diversify, an investor does not want this; for risk reduction it is preferable to have a negative correlation. The incremental risk of an asset depends on whether its returns tend to vary with or against the returns of other assets held. If it varies against them, it reduces the overall variability of a portfolio's returns, in other words its risk.

Thus a product with a substantial risk might still be feasible if it moves in a different direction from other films in the same slate of production. The popular mood two years from now is uncertain. For example, a pacifist movie might be economically risky if a major terrorist activity occurs at the time of release. But if paired with a war movie, the two films together will be less risky: one of them will probably catch the spirit of the time when released. A similar consideration applies, more generally, to people's selection of films. The probability of their going out to see a film on a Saturday night might be fairly predictable. What is uncertain is their choice of films. This means that the films are negatively correlated: if audiences watch Film A they will not watch Film B and vice versa, at least not that weekend. A portfolio approach can therefore be applied to such non-financial assets. Analyses show that, for the years 1930–1960, studio success correlated with product variety: economically successful studios consistently produced a wider variety of films.[101]

The analysis of optimal portfolios, including an empirical example, is developed in ▶ Chap. 3, Production Management in Media and Information.

6.7.4 Risk Reduction Strategy #4: Hedging

One major way to reduce risk is to hedge it by "selling" it to another person who is willing to buy the risk, in the same way that people buy insurance. This is also discussed in ▶ Chap. 11, Pricing of Media and Information. There are several such instruments to reshape the risk profile, either increasing or decreasing exposure—commodity futures, forward contracts, options, swaps, and so on. Collectively, these are part of what has come to be called derivatives. The term has acquired negative public connotations, but the concept is solidly positive (when applied in a transparent fashion). Derivatives transfer risk from people who do not want to

97 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce*. Cambridge, MA: Harvard University Press, 2000.

98 Picard, Robert. *The Economics and Financing of Media Companies*. New York: Fordham University Press, 2002.

99 Chan-Olmsted, Sylvia M. "Diversification Strategy of Global Media Conglomerates: Examining Its Patterns and Determinants." *Journal of Media Economics* 16, no. 4 (2003): 227.

100 In order to estimate the rate at which two assets co-vary, one multiplies the deviation in performance of asset A by the deviation of asset B in each of the N scenarios and then average the products. If A and B are two projects with returns r and probabilities p, then the covariance between the return on A and the return on B is as follows:

$$\mathrm{COV}(r_A, r_B) = \sum_{i=1}^{n} p_i \left[r_{iA} - E(r_A) \right] \left[r_{iB} - E(r_B) \right]$$

The concept of relatedness that the co-variance expresses can also be stated as the *correlation*. The statistical correlation between two variables is the co-variance, "normalized" to lie between +1 and −1. Such normalization is done by dividing the co-variance by the product of the variances of the two variables. For the two projects A and B, the correlation between the return on A and the return on B is as follows:

$$\rho(r_A, r_B) = \frac{\mathrm{cov}(r_A, r_B)}{\sigma(r_A, r_B)}$$

101 Epstein, Edward Jay. *The Big Picture, The New Logic of Money and Power in Hollywood*. New York: E.J.E. Publications, Ltd., Inc., 2005.

bear it to others who are willing to accept it. For example, currency derivatives are attractive to a firm affected by foreign exchange fluctuations, because they provide shelter from the worst of swings in the values of the Euro, dollar, ruble, and so on. Such derivatives can be a contractual arrangement between two parties, or they can be traded at an exchange.

A futures contract gives the holder both the right and the obligation to buy or sell. An option gives the buyer only the right, not the obligation, and the option writer (seller) the obligation, but not the right.

A call option is an option to buy an item at a certain price. Printing companies may purchase call options on paper requirements used in production at a certain price. If the market price exceeds that price, they exercise the option. A put option is an option to sell an item at a certain price. For example, an investor may hold a put option to cancel the investment at a future time if it goes sour.

For example, in 2002, KirchMedia, a major German media company, had accumulated almost €10 billion of debt that it had difficulties in meeting. The entrepreneur Leo Kirch had overpaid for sports rights—€1 billion each for rights to the World Cup and German football league, and another €1.6 billion for the rights to Formula One racing—and when subscriptions fell behind the projections of his business plan he had a hard time staying solvent. Kirch sought an urgent injection of capital from a group of investors, including Rupert Murdoch. Murdoch's company, BSkyB, then invested $1.4 billion in KirchPayTV.[102] However, Murdoch also demanded and received a put option to sell back its 22% share to Kirch for an estimated €1.3–1.7 billion. Kirch provided the put option because he believed that the stock price would rise to a higher price and thereby make the option useless. Murdoch, however, had doubts about Kirch's success. The put option provided a way to pull out of the investment. Murdoch was right; the Kirch stock slid. By exercising the put option, Murdoch would be able to sell the shares back to Kirch for significantly more than its depressed market value. Things were more complicated, however, because by that time Kirch was unable to pay Murdoch the required €1.3–1.7 billion, so Murdoch would have to collect his money in bankruptcy court, almost certainly with heavy losses. On the other hand, by leveraging the mere existence of the put option without actually using it, Murdoch could gain control of KirchMedia, as long as it survived. In the end, Murdoch decided to exercise the put option to get at least some of his money back, which put KirchMedia into bankruptcy. By exercising this option, Murdoch was a debt-holder with a higher claim to Kirch's assets during bankruptcy. In contrast, his 22% equity stake would have been worthless.

As mentioned, option arrangements are quite frequent in the media and technology field. A film option is a contractual agreement between a production company on the one side and a writer on the other, in which the producer pays for the right to buy the rights to a screenplay or story from the writer before a certain date and at a certain price. For example, Sony Pictures optioned the Dan Brown book *The Da Vinci Code*. Such an option creates the right to buy the rights to the story but not an obligation. There can be further steps in an options arrangement. The role of an option structure is to give the investing party the right to cancel at several defined steps. This reduces the risk exposure to the buyer. It also creates incentives for the seller to perform.[103]

In telecoms, there exists a "forward trading" in bandwidth. This enables the parties to buy or sell large blocks of excess transmission capacity. Network companies can buy and sell such capacity from each other or to large users. Arranging such trading is done by intermediaries such as Arbinet and InvisibleHand Networks (subsequently acquired by the Spanish giant Telefonica).[104] Arbinet traded and settled wholesale capacity, with over 1000 members who bought and sold, for a volume that amounted to about 2% of the world's international traffic. InvisibleHand provided a software platform in order to price and allocate bandwidth. Bandwidth then became a commodity that could be traded freely. Internet bandwidth was priced via progressive auction, allowing for a dynamic fair-market price.[105]

Why are options important to understand and use? Normally we think in terms of buying and selling an asset. Whoever holds it has the risk associated with it. For example, suppose that Buyer B buys an asset from Seller S at a price of 100 on the basis of an expectation of an aggregate income of 150. If, in actuality, only 50 are received in income, B then bears the loss of 100 minus 150 = –50. In such a transaction, the downside to B is 100 (total loss) and the upside is unlimited but highly uncertain. The Seller S, by selling the asset, has a certain return of 100, with no downside. But he also has no chance at the upside, which might be high but is highly uncertain. The straight sale scenario is thus a binary situation. Either S or B bears the risk, depending on whether there has been a sale of the asset from S to B or not. But suppose that S wants to have a chance to get part of the potential upside, or that B does not want to bear the entire risk associated with a purchase. In other words, they are willing to allocate the risk among themselves in a way that is in between the all or nothing of a straight sales transaction.

Options create a way to do so. For example, suppose that S does not sell the asset to B, but instead offers, in return for

102 Enwing, Jack and Kerry Capell, "A big score for Murdoch?" *BusinessWeek*. April 8, 2002. Last accessed July 18, 2007. ► http://www.businessweek.com/magazine/content/02_14/b3777073.htm.

103 There are also pretense media derivatives as a way for people to have fun. There are "virtual" derivatives on movies traded on a make-believe Hollywood Stock Exchange, based on fictional money. Stocks and options on movies can be purchased and sold. The exchange also offers bonds on actors and actresses in which value is accrued based on revenue generated by their movies.

104 Wall Street Journal. "Arbinet to Telecom Firms." August 17, 2000. Last accessed May 19, 2017. ► http://www.mashinsky.com/press/matchmaker.htm.

105 Daily, Geoff. "Merkato Enables Dynamic, Real-Time Bandwidth Marketplace." *Streaming-Media.com* 30, 2005. Last accessed May 19, 2017. ► http://www.streamingmedia.com/Articles/Editorial/Featured-Articles/Merkato-Enables-Dynamic-Real-Time-Bandwidth-Marketplace-64709.aspx.

$50 from B, an option contract which entitles B to buy the asset for $150 within a year. How does the distribution of risk look now, in comparison to a straight sale? For seller S, the "sure thing" is now only $50, less than the $100 before. But if the asset ends up producing an income of more than $150, B would buy it and pay A an additional $150. Thus, S would share in the upside.

S's risk is that the asset returns less than $150 and will not be picked up by B. Thus, he has a higher risk than before, where he had a sure $100. He has now a higher upside but also a less favorable downside. B, on her part, has now a lesser downside. At worst, she is out of $50 rather than $100. On the other hand, the upside is also lower, since a combined $200 would have to be paid to S when things go well with the asset.

The two parties can calibrate their respective risks by juggling the price of the option, the price at which the option can be exercised, and the duration of the option. For pricing the option, perhaps the most important factor is the relative riskiness of the asset. If, based on past experience with similar assets, reaching $150 and more is a 50:50 proportion, the price of the option would be much higher than if it is a long shot with a 1:10 likelihood.

These various factors have been put together in a complex formula (the Black-Scholes-Merton Model), which is used to calculate the value of such an option in financial markets. For our purposes of media properties, it is not necessary to go quite as far (though it can be done, with restrictive assumptions).[106] More important is to understand the concept, and how it can be applied.

A prevalent use of options in the media field is the options bought by producers on work by writers (e.g. books or screenplays) and by distributors such as TV networks on TV series, pilots, and concepts. It is also applied to a technology venture funding. Here additional payment of funding typically comes in stages, based on options or similar arrangements. These stages are referred to as, for example, "Pre-seed," "seed," "start-up," "second stage," "expansion stage," and "pre-public" or "bridge" stage." In all cases, the same basic concept drives the transaction. The buyer of the option reduces her risk and exposure relative to a straight purchase. In the worst case she can get out of the deal, with the downside being the money paid for the option and lost. And, in contrast to a no-purchase situation, she has a shot at an upside. What is different from an option for a purely financial instrument that is commonly analyzed in the finance literature and applied in traders' computer models is an additional wrinkle: the media option creates incentives on its seller to perform better in order to achieve its exercise. In other words, the probabilities of success are not set but can be improved by the seller's efforts. This would not be the case in a straight sale of the property. By sharing in the upside, the seller has an incentive to create a stronger product.

6.8 Equity Financing

6.8.1 Types of Equity Arrangements

The third major form of financing, after self-financing and debt, is through equity financing.[107] By this we mean funding that includes an element of ownership. Equity financing arrangements include:

- partnerships and limited partnerships;
- venture and angel financing;
- private and public equity.

For an order of magnitude, small businesses in the USA receive about 50% of their financing from equity (including self-financing) and the other half from debt.[108]

Equity financing tends to be an expensive form of financing for a company because investors take on more risk with equity investments than they do with debt investments. In the case of bankruptcy, equity investors are usually wiped out but debt holders are paid off at least partly, especially if they hold collateral. Debt is higher on the pecking order than equity in the case of liquidation and reorganization. Equity may be riskier, but it also offers a great upside; a share in the profits and a gain from an appreciation of the stock. Shareholders also have voting rights and thus affect the control of the firm. "Preferred stocks" are a hybrid in terms of risk since dividends must be paid before they are paid to common stock holders.

A major reason for a firm's use of equity financing is that debt might simply not be available. Start-ups and internet firms, for example, are mostly financed by equity because few banks will provide loans for such high-risk endeavors without a track record or stable cash flows, and with few assets that could be used as collateral. Another advantage of equity is that there is no obligation to pay interest. A firm might have a bright tomorrow, but when current debt comes due today and cannot be paid, the firm becomes insolvent. Other reasons to sell equity include the need of existing owners to increase the liquidity of the company or of themselves, to pay off existing debt, to create funds for new acquisitions, and to facilitate estate planning.

And what are the disadvantages? There is the high cost of return that an equity investor would expect. There are also high transaction costs (underwriting fees) and a dilution of control of the existing owners.[109] To counter such dilution of control, the existing owners at times create a system where there are several classes of stock, each with different voting rights. Class A stock might be held by the entrepreneur, management, or the controlling family. It usually offers additional voting rights over other shares. Class B shares offer fewer voting rights but may offer higher dividend

106 Chance, Don M., Eric T. Hillebrand, and Jimmy E. Hilliard. "Pricing an Option on a Non-Decreasing Asset Value: An Application to Movie Revenue." Working Paper. Louisiana State University. December 16, 2005. Last accessed May 17, 2017. ► https://www.fdic.gov/bank/analytical/cfr/2006/apr/chh_movies_021.pdf.

107 Self-financing is actually, depending on its structure, part equity, part debt.

108 Berger, Allen N. and Gregory F. Udell. "The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle." *Journal of Banking and Finance* 22, no. 6-8 (1998): 613-673.

109 Lynch, Richard. *Corporate Strategy*. (Harlow Essex: FT Prentice, 2003), 288.

entitlements or a lower acquisition price. They are usually referred to as common stock. Class A stock tends to be in control even if the minority in terms of investment or overall shares, which is mostly the reason for the arrangement. This may be rationalized as aiming to insulate corporate management from the swings in the stock price and allow a focus on long-term goals. The preferred Class A stock is not available to the public and is usually not traded like common stock. Examples for minority owners holding full control are the following:

- The Murdoch family help 39% of voting shares in the global media firms NewsCorp. and 21st Century Fox, but only about 16% of equity.
- The Roberts family has only 1–2% of outstanding stock of Comcast, the world's largest cable TV operator and owner of NBC Universal, but holds 33% of voting shares.
- The Sulzberger family controls the New York Times Company through its 88% of Class B shares, but holds only 19% of the total equity outstanding.[110]
- The Washington Post Co. used to be 75% controlled by the Graham family through 40% of the outstanding stock.[111]
- Cablevision was controlled by the Dolan family, which owned 20% of equity but 74% of the voting rights.
- In Germany, the Mohn family controls the Bertelsmann company through its domination of the Bertelsmann Foundation, which holds all of the company's stock.

6.8.1.1 Partnerships

The Basics of Partnerships

Equity investments come in many forms. By far the most prevalent in sheer numbers is the individual proprietorship. Usually its owner also runs the business herself, assisted by employees. This form of organization is used most often for small businesses. In the media world, a producer might run a project in that fashion. Individual proprietorships might take the legal form of a small corporation, where the stock is not traded but held by the sole owner. This provides a limited liability and thus protects the personal assets of the owner from creditors in case the business fails.

When a business based on a single proprietorship expands, there is usually a need for outside participation. The most basic one, especially for small firms, is a partnership with others as co-owners and possibly co-managers. Partnerships are formed to pool the skills, resources, and information of several individuals or companies. One major advantage of partnerships, in contrast to incorporated firms, is that in many countries there is no income tax on the profits of that partnership because legally it is not treated as a separate entity from its owners but merely a "pass-through entity" to each of the partners, who report their share of profits or losses as personal income. Therefore, taxes on partnership income must be paid only once by a partner,[112] in contrast to a corporation, which must pay its own corporate income taxes, and then the shareholder must pay again an income tax on the distributed profit of the company, that is, the dividend.[113]

A simple partnership is easy to set up. The law provides a basic structure that defines respective rights (voting, profit participation, etc.) and respective obligations (liability questions, loss participation, etc.). In the USA, partnerships are governed, except for Federal taxes and other nationwide regulations, by state law unless the partners specifically agree to different rules in their partnership agreement. There are two types of partnerships: general and limited. In a general partnership, all partners have a say in the day-to-day management of the firm, and each partner is personally liable for the entirety of any business-related obligation. In other words, if in a film production company Partner A decides to buy the movie rights to a book bestseller, his Partner B must fulfill the payment obligation on behalf of the firm, even if he disagrees with the decision of Partner A and has never approved it. It is therefore prudent to select one's partners carefully since one is financially and legally stuck with responsibility for their actions. This risk exposure is reduced in a limited partnership. Here, at least one general partner is responsible for the day-to-day management of the company and is personally liable for business obligations. Limited partners, on the other hand, contribute capital but have minimal control over business operations. In return, their personal liability is capped at the amount of the initial investment. Limited partnerships are often used in PE and in hedge funds. The logic behind this division of liability is that it enables the limited partners to invest without having to worry about every move of the general partner that could trigger a potentially huge liability.[114]

An example for the fear of liability in a full partnership is Apple Computers. In 1976, Steve Jobs, Steve Wozniak, and Ronald Wayne formed Apple Computers as a real partnership, with 45%, 45%, 10% ownership shares respectively.[115] But Wayne worried about the possibility of holding the bag in case of a bankruptcy, given that Jobs and Wozniak had no personal assets, and he formally withdrew from the partnership just a few days later by filing a notarized statement to that effect. He sold back his 10% ownership stake to his two co-partners for $2300. That stake would have been worth about $94 billion in 2018.

110 The New York Times Company. Notice of 2010 Annual Meeting and Proxy Statement. March 12, 2010. Last accessed May 19, 2017. ► http://s1.q4cdn.com/156149269/files/doc_financials/proxy/2010_Proxy_Statement.pdf.

111 Fox, Justin. "Murdoch vs. Family-Owned Newspapers." *Time*. May 10, 2007. Last accessed May 19, 2017. ► http://www.time.com/time/magazine/article/0,9171,1619562,00.html. The Washington Post Co. was subsequently bought by Jeff Bezos, founder of Amazon.com. Bezos owns "Nash Holdings LLC," a holding company created for the Washington Post deal. Nash Holdings owns 100% of the Washington Post, which was purchased for $250 million.

112 On the other hand, India taxes partnerships twice, once with a flat rate of 30% of total income minus a deduction of interests and remuneration to the partners, and then the partners are also taxed.

113 The double taxation of corporate profits and dividends is one of the arguments made for setting corporate income taxes at a lower rate than individual income tax rates.

114 Bankman, Joseph. "The Structure of Silicon Valley Start-ups." *UCLA Law Review* 41, no. 7 (Sept. 1994): 1737-1768.

115 Isaacson, Walter. *Steve Jobs*. New York: Simon and Schuster, 2011.

It is more difficult to create and run a limited partnership than a full one without professional help since it requires, in terms of registration, the legal contracts between the partners, and tax filings, and compliance with various regulators.

Although there are exceptions, limited partnerships tend to be used more in the early stages of a company or venture rather than in its mature stages, where corporate forms predominate. For investment funds, the limited partnership arrangement is prevalent, in part because of its tax treatment.

Cable TV Partnerships

In cable TV, limited partnerships were especially popular in the US in the 1980s. Jones Intercable, for example, launched about 20–30 cable TV partnerships, each for ~8–10 local cable systems, adding up to a $1.2 billion aggregate operation and produced approximately 15% in annual returns. The advantage for the company and its founder Glenn Jones was the ability to raise money quickly, then buy out the partners when the business generated cash. The investors got a good return and did not have their money tied up for a long time. For a while, there were also strong tax benefits.

Film Partnerships

Partnerships were frequent in film financing. Before the 1976 and 1986 tax reforms in the USA, limited film partnerships were among the most effective tax shelters there. Subsequently, "passive losses" from tax shelters could no longer be used to offset income from wages, salaries, interest, and dividends. Absent the tax angle, few movie partnerships have historically returned better than 10–15% annually and many have in fact lost money to limited investors. Occasionally they generate high profits to investors, of course. Yet from a purely economic standpoint it is usually better to invest directly in the common stocks of the production or distribution companies, especially considering the advantage of greater liquidity (ability to sell quickly.) But film investments have always been driven by considerations beyond pure economic rationale. Investing in film directly via partnerships is often seen as "glamorous," which is a factor for many investors—whether they admit it or not. Overall, it is estimated that in the USA individual investors account for about 10% of the film sector's direct financing. Film limited partnership funds will not usually invest as "first money" but look first at other financing already in place, especially by the principals. The limited partnership investment funds then may provide 10–50% of the budget needs in return for a straight profit participation. They might also get the film rights to certain countries or rights in a sequel.

On top of that consideration, film limited partnerships are popular in many countries where tax shelters continue to exist to encourage investment in film production. As mentioned, investors often get back less than they invested, before the tax benefits. They have an individual average capital loss of about 20%, but tax breaks enable those investors to use those investments as deductions against their capital gains. In Germany, an individual with €100,000 of taxable income could invest €10,000 in a film fund and immediately reduce his taxes.[116] Investing in a film counts as a loss until money is actually received, so the €10,000 is deducted from the tax base and taxable income is thus reduced. At a personal income tax rate of 40% the investor saves €4000 in tax. Furthermore, most of these investments were leveraged, meaning that the film partnership borrowed money based on that €10,000. The investor is considered to be responsible for his share in the loan. Suppose that the leveraged debt is equal to the original investment, then the investor is considered to have "spent" €20,000 as far as tax law is concerned. This gives him €8000 of tax savings today although he only spent €10,000 of cash for the film partnership investment.

As a result of such incentives in Germany, the financial fund company Equity Pictures became one of the biggest film investors in the world. It issued four media funds as limited partnerships to high tax bracket investors. With the money, it financed movies such as *Hostage*, *Lonely Hearts*, and *The Black Dahlia*.

Most tax schemes do not let an investor fully avoid tax but only to defer its payment to later years when income from the film is received. Such a delay of payment is worth money. Furthermore, at that point personal income may be smaller and the tax bracket is therefore lower, possibly offsetting income with a new round of tax losses. Investors have also used such a vehicle to get around inheritance taxes. The film fund buys first, with a value set for tax purposes, a stake in a money loser, while the potential winners are kept further down the road. This reduces the value of the partnership for tax purposes. The share in the fund's limited partnership is then donated to a future heir within the tax-free annual donation amounts, whereas in reality a much higher value has changed hands that will be realized a few years later.

Some of these perfectly lawful tax loopholes existed by chance and were discovered and used by savvy financiers and lawyers until their respective governments closed them down. But on many occasions such tax shelters have been deliberately designed to help rich and influential people lower their taxes while being justified as a support of the generally risky business of film, which in many countries is not profitable without some kind of governmental help.

A well-organized limited partnership seeking investors requires a prospectus that spells out all aspects of the deal and its downsides. It describes the general partners, other managers, the planned projects, the business plan, the tax angles, and so on. The drafting of such a prospectus can cost hundreds of thousands of dollars when it covers a complex scenario. It spells out duties and obligations, which will affect lawsuits if the project is unsuccessful (or highly profitable) and conflicts arise. Creating the legal structure of a limited partnership, important as it is, is only an input toward the goal of finding investors. This will be discussed further below.

116 Richards, Matthew. "Lights, camera - and action for small investors." *Financial Times*. December 2, 2006. Last accessed May 17, 2017. ► http://www.ft.com/cms/s/0/a5e45982-81a9-11db-864e-0000779e2340.html.

Theater Partnerships

Commercial theater is even riskier for investors than film because there is an even lower predictability of success and a much lower financial upside. On the other hand, the amounts involved are smaller. Nevertheless, people invest in theater often for reasons beyond financial maximization but for the love of the medium and its artistic community. Approximately 80% of shows never become profitable and investors lose money.[117] In many instances, theater is supported by a variety of governmental, private, and non-profit sources, and is not really expected to break even.

Commercial theater productions have a similar financing process to commercial films. A producer secures option rights to a literary property. She then raises investment to cover the production costs. Commercial theater productions such as a Broadway show rely on financing by limited partners—investors with a strong personal interest in the theater, known as "angels." Angels in theater love the world of theater more than they follow pure economic incentives, because theater is a poor tax shelter. A major reason is that there are no major depreciable assets for tax purposes. Typically, the aggregate pecuniary returns for such limited partners are below normal. A study of 948 shows produced in the seasons of 1972–1982 showed an aggregate loss of $66.6 million on a total investment of $267.5 million. There were several hits, too,[118] and these provided some incentive for risk-taking investors.

As the costs of producing a Broadway show have grown to over $3 million on average for a play and over $20 million for a major musical, individual angels have been replaced by major entertainment companies as funders. For them, a Broadway hit is a way to create a testing ground and buzz for a film or television adaptation. If the play is successful, the media company has an option to create a movie. In some cases, the direction is reversed, and the Broadway show is an "after-market" for a successful film.

In some cases, the owners of the theater may be equity investors themselves in return for renting the theater to the show (i.e. they provide vendor financing). The major owner-investors of Broadway theater venues are Shubert, Nederlander, and Jujamcyn.[119]

A show will repay the investors first, with the remainder, if any, divided among the investors, the producers, and other profit participants. In reality, just as in the case of film, some of the profits are taken out first by producers, major talent, and theater owners through various charges for expenses, and overhead, above actual cost. This is discussed in ► Chap. 13, Accounting in Media and Information Firms.

Technology Partnerships

In high tech ventures, early funds may also be provided by "angel" investors (the term is borrowed from theater financing), who are typically individuals (or sometimes a firm) specializing in high-risk, "early-stage investments." Angels have a long business history. Some of the biggest companies (e.g. Ford, Amazon, or Apple) have had business angels in their start-up phase.[120] By one count, in 2009 there were 260,000 such angels in the USA, many of them actively sought out by entrepreneurs for investment. In 2008, in the midst of a major recession, over 55,000 ventures were funded in America with over $20 billion from angels, an average investment of $346,500 per deal.[121] In 2015, angels invested $24.6 billion in 70,000 deals for an average of $351,000.[122] In contrast, venture capitalists are far more selective, and often only after the angels have invested their money and taken greater risks. In 2015 venture capitalists invested $59.7 billion in 4,497 deals, with an average deal size of $13.3 million.[123]

While venture capital (VC) funds mostly invest other people's money, angels put their own personal funds at risk. The angel investors can also be advisors, mentors, and facilitators. They are often successful businessmen and women with entrepreneurial experience and expertise in the chosen investment field, and attracted by the potential for getting into a promising technology venture early. For them, a non-financial reason to invest in a venture is active involvement. An angel should not be treated as a "moneybag" but as a business partner.[124]

Angels prefer a low profile to limit the number of unsolicited deals that may come their way. How then to find them? There are several possibilities, but the best choice is to use one's personal network—contacts from college, university, friends, family, and so on.

Industry gatherings and forums are public and accessible, through often for a hefty fee, but often less productive. Law firms specializing in media and technology, or tax accountants, may have information. There are also online platforms, such as the Angel Capital Network or the website Active

117 Vogel, Harold L. *Entertainment Industry Economics: A Guide for Financial Analysis*. 7th edition. (New York: Cambridge University Press, June 2011), 489.

118 Caves, Richard E. *Creative Industries: Contracts Between Art and Commerce*. Cambridge: Harvard University Press, 2000.

119 Vogel, Harold L. *Entertainment Industry Economics: A Guide for Financial Analysis*, 7th ed. (New York: Cambridge University Press, June 2011), 489.

120 Kelly, Peter. "Finance and Venture Capital Markets." In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen and Antti Ainamo. (New York: Springer, 2003), 211-234.

121 Bowers, Brent. "In Pitching to Angel Investors, Preparation Tops Zeal". *New York Times*. June 10, 2009. Last accessed May 19, 2017. ► http://www.nytimes.com/2009/06/11/business/smallbusiness/11hunt.html.

122 Angel Capital Association. "2017 Angel Capital Association Summit: Angel Investors Drive the Success of American Startups and Economic Growth." *PR Newswire.* April 12, 2017. ► http://www.prnewswire.com/news-releases/2017-angel-capital-association-summit-angel-investors-drive-the-success-of-american-startups-and-economic-growth-300438845.html.

123 PricewaterhouseCoopers. MoneyTree™ Report, Q1 2016. April 2016. Last accessed May 19, 2017. ► https://www.pwc.com/us/en/technology/assets/national-moneytree-report-summary-q1-2016.pdf

124 Kelly, Peter. "Finance and Venture Capital Markets." In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen and Antti Ainamo. (New York: Springer, 2003), 211-234.

Capital.[125] Pitch fests or business plan competitions from business schools, magazines or consulting firms are also a way to gain practice, and can lead to prize money and contact with potential angels. Industry trade magazines and web pages, and even end credits of films, may show funds that have supported films in the past. But it is usually personal contacts that will provide leads and introductions. Trusted referrals are the best openers of doors.[126]

The look-over must be in both directions. An entrepreneur should check out an investor carefully. Meetings with prospective investors must be well-prepared, with a business plan and presentation. Investors size up people as much as at business plans. They will check out the entrepreneur and team and consider their experience, track record, and reputation. Passion by the entrepreneur to the idea is important in a pitch, but a good business plan, credibility, and realism carry more weight. A demonstration that the entrepreneurs themselves have invested in their venture is important.

Angels will also look for a profitable exit strategy, with specific potential merger partners or acquirers. Passion and commitment by the entrepreneur are important in a pitch, but strong preparation, a good business plan, credibility, and realism carry more weight.[127] A demonstration that the entrepreneurs themselves have invested in their venture is important.

In general the angel investor will expect a high rate of return, probably at least 30%. Most ventures fail, and those that make it must compensate for the others' losses. Usually the angel investor will require a stake in the company whose value represents the expected return. Since normal valuation methods such as discounted cash flows and so on do not work because they require figures on profits, revenues, and expenses, one must arrive at some implicit value of the company. This requires judgment as much as calculation. If the parties agree that the company's value is $1 million, the investor should then expect for a $100,000 investment a 10% stake in the company.

Impact of Partnership Financing on Content or Innovation

Content production or technology direction are not influenced directly by the limited investors owing to their legally restricted role as a "limited" partner. But to the extent that such investors may flock to certain types of prospectuses and not to others will affect company choices. In the technology field these kinds of investors tend to go for high-risk, high potential return projects with a high innovation potential. On the other hand, for film and theater limited partnerships, the incentive is based more on participation. Hence, high visibility rather than avant-garde projects will be preferred.

Case Discussion

Limited Partnerships

TWIT
Limited partners could be, in concept, a viable funding source for TWIT: the parent company could remain in control as the general partner and would bear most of the financial risk beyond the limited partner's direct investment. It could set up the limited partnership by selling partnership shares in TWIT. The company has run its projections and expects the IRR on the project to be 16.34%. If it sells a stake in TWIT to limited partners it will be giving up a proportional amount of expected future profits with such an expected return of 16.34%, to which are added transaction costs. Even this high rate of return may not be enough, since limited partnership investors often require at least 20% return - though in this case, they may take less. This translates into a cost of the prime rate of 5.45% plus 10.89%. The general partner typically contributes 20% of the investment, in order to assure the outside investors that it, too, has "skin in the game." Without such assurances limited partners will require higher return on their investment. On the whole, forming a limited partnership to fund TWIT would be unattractive to the company since it has cheaper and more efficient forms of financing available.

SNIT
For SNIT, on the other hand, a limited partnership is a more feasible option. SNIT was started by entrepreneurs with significant experience in this field. These individuals have a combination of technical knowledge and entrepreneurial spirit. SNIT'S initial list of potential limited partners draws from family and friends. The cost of limited partnership funding is based on projections of SNIT's IRR. The limited partners will also share in the losses if the company does not do well. If SNIT is successful, then these limited partners could be bought out in the future.

125 In other countries there are intermediaries such as the British Venture Capital Association (BVCA) ► http://www.bvca.co.uk/home, the Canadian organization of angel investors Mindfirst ► http://mindfirst.com/, and the European Trade Association for Business Angel Network (EBAN) ► http://www.eban.org/.

126 Kelly, Peter. "Finance and Venture Capital Markets." In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen and Antti Ainamo. (New York: Springer, 2003), 211-234.

127 Bowers, Brent. "In Pitching to Angel Investors, Preparation Tops Zeal". *New York Times*. June 10, 2009. Last accessed May 19, 2017. ► http://www.nytimes.com/2009/06/11/business/smallbusiness/11hunt.html.

6.8.1.2 Private Equity

Private Equity—An Overview

The term private equity is used in different ways. Almost all equity is private in the sense of being owned by private parties rather than government. But equity is differentiated according to its trading status: *public equity* is stock traded on a stock exchange and accessible to the general investing public. Publicly offered securities are subject to securities laws and must adhere to strict legal standards. For example, financial documents such as the company's balance sheet, income statement, and other information have to be disclosed periodically. In contrast, firms whose stock is held privately (not traded on a stock exchange) subject to much looser financial reporting.[128] This allows, for example, top executives to take home high compensation without public or investor scrutiny. Public equity's target audience is the mass-market of investors, and it is therefore highly regulated to protect, in particular, small mom-and-pop investors with limited financial sophistication.

In most countries, public equity placements must be structured to comply with state and federal securities laws. In the USA, these laws, dating back to the 1930s, say that a stock offering must be registered with or approved by a government agency, unless it meets a specific exemption. A sale of securities that is conducted privately, without a public offering, will generally be exempt, on condition that the offering is made only to sophisticated and wealthy investors. The frequently used "Regulation D" stock offerings include a number of exemptions from registration requirements, depending on the size of the issuer, the number of investors, and the manner in which the offering is conducted. An "accredited investor" includes, for example:

- an individual with a net worth (together with her spouse) exceeding $1 million;
- an individual with income above $200,000 (or $300,000 jointly with her spouse);
- any trust or organization with total assets over $5 million;
- any entity in which all of the equity owners are accredited investors.

PE is an important source of funds for a variety of situations:

- start-up firms;
- financially distressed firms;
- private mid-market firms;
- public firms in need of buyout capital;
- firms seeking to become a target for acquisition by reducing their exposure to the regulation of public corporations;
- large shareholders who want to gain full control over their target firm;
- small companies with untraded stock;
- start-ups on the way to going public;
- large companies withdrawing from public trading.

Private Equity funds draw money for their investments either from individuals (who need to be wealthy enough to be legally admitted to invest) or from organizations that invest professionally. PE money tends to come from astute investors with deep pockets, including: rich people, insurance companies, pension and mutual funds, endowments, and sovereign funds.[129] In 2015 PE firms raised $629 billion and in 2016, $589 billion.[130]

Major PE firms are:

- JPMorgan Partners Fund
- Blackstone
- Thomas H. Lee Equity Funds
- Kohlberg Kravis Roberts & Co.
- TPG (formerly Texas Pacific Group)
- Donaldson, Lufkin & Jenrette
- Warburg Pincus
- Goldman Sachs
- Apollo Management
- Bain Capital
- CVC Capital Partners
- First Reserve Corporation
- Hellman & Friedman
- Apax Partners
- Cerberus Capital Management.

In general, there is no legal minimum investment requirement for investments in PE funds. But the funds, in order to avoid unsophisticated investors who could present legal and public relations risks, set a high minimum investment amount per investor, often in the million-dollar range.

PE in the Media and Media Technology Industry

Media and technology companies have been particularly interesting to PE investors, because there is a possibility of bigger returns owing to the volatile and risky nature of the business, which favors aggressive investors. In addition, PE funds believed that the frequent lack of financial and managerial sophistication in newer media and digital companies provides an opportunity.

- $11.6 billion was paid for the Dutch information publishers, VNU by PE firms Kohlberg Kravis Roberts, Blackstone, Thomas E. Lee, and Alpinex and Carlyle. In 2007 the company was renamed The Nielsen Company.

128 The Economist. "Public v Private Equity: The Business of Making Money." July 5, 2007. Last accessed May 19, 2017. ► http://www.economist.com/node/9440821.

129 The year 2010 was a slow one, with 1300 deals totaling $105 billion completed in the USA. PE limited partnerships worldwide invested $686 billion and raised around $500 billion in that year. ► http://vcexperts.com/vce/library/encyclopedia/documents_view.asp?document_id=1330#_ft3; In 2013, there were 2013 deals with an announced value of $249.5 billion. PE firms fundraised $401.1 billion. EY. "Regaining equilibrium: Global private equity watch 2014." 2014. Last accessed May 19, 2017.

130 Drean, Antoine. "Private Equity Fundraising Is Set To Break Records, But The Plenty Holds Danger." *Forbes*. December 8, 2015. Last accessed May 19, 2017. ► http://www.forbes.com/sites/antoinedrean/2015/12/08/private-equity-fundraising-is-set-to-break-records-but-the-plenty-holds-danger/#495744d751ac; MacArthur, Hugh, Graham Elton, Daniel Haas and Suvir Varma. "As Good As It Gets For Private Equity Fund-Raising." *Forbes*. March 10, 2017. Last accessed May 19, 2017. ► https://www.forbes.com/sites/baininsights/2017/03/10/as-good-as-it-gets-for-private-equity-fund-raising/#7b92398771d4.

- The world's largest radio company, Clear Channel, was acquired by Thomas H. Lee Partners and Bain Capital for $18.7 billion plus assumption of $8 billion net debt. The deal had trouble closing and the valuation came down subsequently. To pay for the deal, the partners sold Clear Channel's 56 TV stations and 161 of its radio stations. Renamed iHeartMedia, Inc., and carrying a debt load of $20 billion, the company filed for bankruptcy.
- Kohlberg Kravis Roberts and Permira bought SBS, the satellite broadcaster headquartered in Luxembourg, for $2.5 billion in 2005.
- KKR and Permira bought the largest private German TV broadcaster, ProSiebenSat.1, for $7.6 billion.
- The media company Journal Register Company became America's 22nd largest newspaper chain. It was formed in 1990 by Warburg, Pincus, & Co. through multiple acquisitions via debt financing. Warburg Pincus eventually converted the conglomerate to a public company in 1997.
- In 2007, a consortium of billionaire Haim Saban and the PE companies Providence Equity Partners, Madison Dearborn Partners, Thomas H. Lee Partners and Texas Pacific Group took control of the Spanish-language TV network Univision for $13.7 billion. This acquisition left the company at a huge debt level equal to 12 times its annual cash flow.
- In 2006, Bertelsmann acquired, for $5.8 billion, a 25.1% stake of its own stock held by Group Bruxelles Lambert. This took Bertelsmann fully private and it freed Bertelsmann from the prospect of an initial public offering (IPO) for the stake.
- Time Warner divested itself in 2004 of its music company Warner Music Group. It sold the company to Edgar Bronfman Jr., Providence, Bain Capital, and Thomas H. Lee for a total of $2.6 billion.[131] The new owners slashed staff and cut costs; Warner Music Group went public in 2006 (i.e. the PE group sold its shares to other investors) and soon had a market cap of $3.6 billion. But then the Warner Music Group share in the global music business price dropped considerably.[132] Though its market share had been steady at around 15% since 2009 and it remained the third largest record company, its revenue dropped from $3506 million in 2008 to $2311 million in 2011 (a decrease of 34%). In 2011, Warner Music Group became private again, when Access Industries (privately held by Len Blavatnik) bought it for $3.3 billion. Share prices had dropped 78% since 2007.
- Cablevision's founding Dolan family tried several times to purchase the remaining shares of the cable TV and media company and take it private. In 2007 this finally worked through a leveraged buy-out financed by $2.1 billion family resources and a debt package of $15.5 billion from Merrill Lynch, Bear Stearns, and Bank of America.
- The film studio MGM was bought in 2004 by PE firms TPG and Providence, and by Comcast and Sony. They paid about $5 billion in debt and equity to buy MGM (then-publicly traded) from its majority owner, billionaire Kirk Kerkorian.
- In 2005, the PE firm Kohlberg Kravis & Roberts (KKR) made a friendly but unsuccessful takeover bid for Vivendi, a media giant with a market cap of $40 billion.
- In 2005 financier Carl Icahn's hedge fund and some allies (Franklin Mutual Advisors, JANA Partners, and SAC Capital) tried to take control of Time Warner.
- In 2004, Cox Enterprises bought the remaining 38% of Cox Communications shares it did not yet own for about $ 7.9 billion, at a 16% premium over the traded share price.
- In 2012, Spotify raised $100 million from PE firms to enter the US market.
- In 2013, Silverlake and Michael Dell took the Dell Computer Company private, in a transaction worth $24 billion.
- In 2015, Dell acquired the data storage company EMC, backed by Silver Lake Capital, for $67 billion.
- In 2015 Veritas (a software firm) was bought by the Carlyle Group for $8 billion.
- In 2005, the PE firms Silver Lake Partners, Bain Capital, Blackstone, Providence, TPG, and KKR acquired SunGard Data Systems (SDS) for $11.3 Billion in cash and assumed the debt. SunGard is a software vendor and applications provider for financial services, higher education, and the public sector. The structure of the acquisition consisted of:
  - $2 billion in "junk" bonds (high interest debt);
  - $4 billion term loan (bank debt);
  - $1 billion revolving facility (bank debt);
  - $3 billion in investment-grade bonds;
  - $1.3 billion in equity from the consortium.
- The SunGard deal translates into a transaction that was 90% debt financed, based on the assets and cash flow of the acquired company. It operates with a debt to equity ratio of almost 8:1. Such a high ratio increases the risk of the deal: if the venture is profitable, the high leverage increases the already positive ROI. But in a downturn the loss is amplified.

Major Telecom Private Equity Deals

PE firms are also interested in established telecom companies. The attraction is not a high upside earnings potential but rather the steady cash flow and the vast assets of a utility, in addition to strong market power with captive customers.

In 2005, a PE consortium including Blackstone, Kohlberg Kravis Roberts, Apax, and Permira purchased Denmark's largest telecommunications company, TDC (13 million customers throughout Europe, especially in Denmark and Switzerland)

131 Wikipedia. "Warner Music Group." Last updated July 15, 2012. Last accessed July 20, 2012. ► http://en.wikipedia.org/wiki/Warner_Music_Group.

132 Goldsmith, Jill. "Hollywood edgy about Stealth Wealth." *Variety.* December 17, 2006. Last accessed July 20, 2012. ► http://www.variety.com/article/VR1117955885.html?categoryid=18&cs=1.

for $15.3 billion. Of this, $12 billion was paid in cash. The deal, at the time the largest PE deal in Europe, was set at a 40% premium over the company's traded share price.[133]

In 2006, the Australian PE firm Babcock & Brown acquired the Irish National Phone Company Eircom, as mentioned, by using debt secured by Eircom's own assets. The €4 billion Eircom debt financing package included €3.5 billion in senior debt provided by Credit Suisse, Deutsche Bank, and JPMorgan. Babcock & Brown's high debt required it to make big interest payments. Eircom was operating in the black. However, the debt required the raising of telecom prices in Ireland, resulting in some of the highest phone rates in the world. Even so, Babcock & Brown's debt level became unsustainable, and the company went bankrupt.

Impact of PE Acquisitions on Content

With much investment money in the hands of PE fund managers, what has been the impact on media content or technology innovation? PE deals often lead to a break-up of large firms such as media conglomerates to reduce debt that paid for the acquisition. Clear Channel used to be the largest radio company in the world, but the PE owners, once they got control, sold off almost half of its 1100 radio stations.[134] Second, PE partners will be generally less interested in investing in quality or innovation that will pay out only in the longer run. Resulting long-term economic damage to the company will only become apparent after the PE firm has sold its stake. Unlike start-up VC, this kind of PE is short-term oriented in its search for cash flows to meet debt payments and position the company for resale.

Traditional institutional investors such as Fidelity, and other mutual funds, rarely exert their influence over the management of companies they invest in. In contrast, PE funds control the acquired media company fully and often install new management with tough performance mandates. With so much capital at risk as well as the immediate need to make debt service payments to pay back loans, the PE funds play a hands-on operational role beyond the merely financial. PE ventures are often financed by leveraged buy-out debt on the acquired company itself. The PE firms typically only put up a percentage of the capital required to buy the target corporation. The majority of the financing comes from a variety of external sources. There are no filing requirements with national financial securities regulatory agencies such as the SEC, information is not available to the press, and securities analysts stop following the stock. The new owners frequently have a low profile. In 2009, Thomas H. Lee Partners– a $20 billion Boston PE firm that acquired singly or in partnerships the major media firms Clear Channel, Univision, VNU, Houghton Mifflin, and Warner Music – did not even maintain a website.

Case Discussion

Private Equity

PE financing can be used by a young corporation lacking access to public debt and equity markets. TWIT, by itself, meets that category, but its parent company Time Warner is an established company with much cheaper funding options.

In contrast, companies such as SNIT that cannot raise financing from debt or public equity markets are candidates for the issuance of PE to get early stage financing from private investors with faith in the project and its entrepreneur. The cost of such equity will be similar to that of venture financing, discussed below. It is easily a whopping 40% or more.

6.8.1.3 Venture Capital

VC Financing

VC firms finance new and rapidly growing companies. VC funds are pools of capital, typically organized as limited partnerships, that invest in companies and industries that represent opportunities of a high rate of return. In return for financially backing a start-up they receive equity securities. Usually they also assist in the development of new products or services. They are designed for institutional and deep-pocket investors. VCs have a long-term orientation, take high risks, and expect high rewards. They are often hi-tech focused, with less involvement in content media. VC firms invest in a start-up company and take a percentage of ownership. Typically, they will look for a 35% to 40% ROI on a single venture, knowing that many of their investments will never return a profit. It is claimed that 20% of VC deals are failures, 60% are disappointing, and the remaining 20% are winners.[135]

The main goal of a VC is a profitable exit: to see the portfolio firm go public (IPO), be acquired, or be merged as soon as possible to make a sizeable profit. Once the stock is freely tradable after an IPO, VC firms distribute shares or cash to the limited partner investors.

The process of funding is structured in a benchmark system. Similar to the option arrangement discussed earlier. Financing is provided to the portfolio companies in several stages called pre-seed, seed, first round (early stage), second round (expansion). To this may be added a bridge stage prior to an IPO and a public expectations stage, and possibly others. Funds for a next stage are provided only if the performance objectives are met for the previous one. At every stage, the level of financing is very different owing to a varying level of risk and the expected return for that phase of the project. Some rules of thumb for expected rates of return for each stage of the company are[136]:

- seed stage: 80%+;
- start-up stage: 50–70%;

133 Bloomberg News. "Takeover firms will pay $15.3b to buy Danish phone giant TDC." *The Boston Globe*. December 1, 2005. ► http://archive.boston.com/business/technology/articles/2005/12/01/takeover_firms_will_pay_153b_to_buy_danish_phone_giant_tdc/.

134 This was not enough to cover the debt. In 2018 the company filed for Chapter 11 bankruptcy.

135 Kelly, Peter. "Finance and Venture Capital Markets." In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen and Antti Ainamo. (New York: Springer, 2003), 211-234.

136 Junee, Ryan. "Startup Valuation-The VC Method." September 20, 2006. Last accessed July 20, 2012. ► http://006/09/startup-valuation-the-vc-method/.

- first-stage: 40–60%;
- second-stage: 30–50%;
- bridge/mezzanine stage: 20–35%;
- public expectations stage: 15–25%.

Skype, the voice-over-IP telecom company, is a good example of a successful VC investment: It was founded in 2003 by Niklas Zennstrom and Janus Friis with help from investors who initially put in €2 million. Two years later Skype was bought by eBay for €2.1 billion.[137] In 2009, eBay sold 65% of Skype to a group of investors led by PE firm Silver Lake, including a major Canadian state pension fund, for $1.9 billion in cash and $125 million in short-term debt. Silver Lake intended to launch a $1 billion IPO for Skype in 2011.[138] Instead, Microsoft bought Skype in 2011 from Silver Lake and its partners, as well as from eBay, for $8.5 billion.

In the early days of VCs—in the 1950s and 1960s—typical venture investors were rich individuals. Only later did VCs emerge as major investment vehicles managing other people's money. Prior to the 1980s, US pension funds were effectively barred from any economically significant investment in VCs because of the "prudent man rules" that required financiers to be cautious with money they managed. However, in 1979 the US Labor Department reinterpreted the law retirement protection to permit pension fund investment in VC if it did not endanger the entire portfolio. These and other regulatory changes led to a large increase in the flow of investments into venture funds. In 2004, sources of VC funds included public pension funds (42%), commercial banks and life insurance companies (25%), and endowments and foundations (21%).[139] Individuals and families accounted for only 10% of VC sources of funds.

For most PE funds (of which VC is a sub-category) the managers of the fund takes a fee of "2 and 20"; 2% of asset value as annual management fee and up to 20% of any profits made by their funds. Usually there is a minimum so-called "watermark" (in the vicinity of 8%, depending on several factors) that must be exceeded in order for the 20% profit participation to kick in. If one year is loss-making and the following years are profitable, the watermark will prevent any profits being reaped by the VC fund until the sum of profits and losses exceeds the watermark.

The limited partners typically put up 98% or more of the funds necessary and receive 80% of the partnership's profits. The general partner provides only a fraction of the investment but contributes the ideas, the entrepreneurship, and the management effort. VCs are usually actively involved in the management of each of the portfolio companies. They often spend more than 100 hours per year on a portfolio firm and visit each a dozen times per year.

VCs are highly selective in the project they pick. According to one VC, only 2–3% of deals presented to a VC get funded. If the business plan is submitted "cold" (without referral by a trusted intermediary), the odds are practically zero.[140]

A corporate VC is set up by large companies with deep pockets seeking to find investment opportunities and encourages its own talented people. Corporate VCs allow them to introduce a more entrepreneurial spirit into the culture of the corporation so that they can create halfway houses for internal entrepreneurs. Intel's corporate VC portfolio counts 200 companies worth $2.5 billion. Another example of a corporate media VC is Bertelsmann's BDMI.

The major drawback for VC funding, from the startup's perspective is that it is an expensive form of financing, with the founder giving up a big chunk of the firm and thereby reducing control and upside potential.

From the investors' perspective, venture capital is a cyclical, risky, and unpredictable business. MovieBeam, a company that transmitted movies over analog lines to a viewer's home, found VC funding of $48.5 million, together with Disney, Cisco, and Intel. But the venture failed. Another internet-TV start-up was Joost, which received $45 million in 2007, VC money coming from Sequoia Capital, Index Venture, CBS, Viacom, and billionaire Li Kashing. Joost's founders were famous, having started Skype and Kazaa, and the company received a lot of hype. But Joost failed by 2009.[141] On the other hand, in 2006, the video sharing company YouTube raised $11.5 million from VC. Google soon bought it for $1.65 billion,[142] with the VCs cashing in big time.

Case Discussion

Venture Capital TWIT Versus SNIT

VC is an expensive form of start-up financing, at a cost of at least 25% (prime plus 20%) interest. It is too costly in deep pocket situations when a new prospect such as TWIT has Time Warner's corporate backing. It would also dilute control of TWIT since VCs require a major stake in the venture in return for financing. The benefit of using VC to provide business guidance is also less important to TWIT since its corporate parent has knowledge, resources, and experience.

For SNIT, on the other hand, venture finance is much more helpful. Not only could VC provide much-needed capital but it would also deliver business management advice, contacts, and credibility. SNIT is a good candidate for VC as it is too small and young to raise capital in the public markets or secure a bank loan. Yet obtaining VC is difficult. Given its first-stage status of development, SNIT should expect financing at an implicit cost of 40–45%, and might get $5 million at that point.

137 The Economist. "Giving Ideas Wings." September 14, 2006. Last accessed May 19, 2017. ► http://www.economist.com/business/displaystory.cfm?story_id=7905466.

138 MacMillan, Douglas. "EBay's Skype Sale Looks Like a Win-Win." *Business Week*. September 1, 2009. Last accessed July 20, 2012. ► http://www.businessweek.com/technology/content/sep2009/tc2009091_371847.htm,

139 Berger, Allen N. and Gregory F. Udell. "The Economics of Small Business Finance: The Roles of Private Equity and Debt Markets in the Financial Growth Cycle." *Journal of Banking and Finance* 22, no. 6-8 (1998): 613-673.

140 Kelly, Peter. "Finance and Venture Capital Markets." In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen and Antti Ainamo. (New York: Springer, 2003), 211-234.

141 Carlson, Nicholas. "Why Joost Failed." *Business Insider*. July 1, 2009. Last accessed July 20, 2012. ► http://www.businessinsider.com/why-joost-failed-2009-7.

142 Associated Press. "Google buys YouTube for $1.65 billion." *NBC News*. October 10, 2006. Last accessed May 19, 2017. ► http://www.msnbc.msn.com/id/15196982/ns/business-us_business/t/google-buys-youtube-billion/.

6.8.1.4 Initial Public Offerings (IPOs)

An Overview on IPOs

"Public equity" is supplied by capital markets that are regulated by strict rules (securities laws) and agencies (e.g. the SEC). A company can access the public equity markets by issuing shares. (They are public in the sense of "generally accessible to investors" rather than in the sense of "governmental" or "state owned.")

Why would a company issue public equity?

- Present owners are not able or willing to increase their capital contribution.
- Present stockholders need cash, and cannot easily sell their shares unless they are publicly traded.
- Greater credibility of a company as a result of the publicity generated by issuing stock and being followed by security analysts and the business press.[143]
- A wider universe of investors and pool of investment capital is accessible.
- Ability to attract and retain managers if the firm offers stock options and other incentives.[144]
- Founders and shareholders are interested in cashing in their holdings in the company they helped to start up.

For example, Sycamore Networks, a Boston optical networking company, was established by Desh Deshpande and Dan Smith in 1998.[145] It went public 18 months later at the top of the dot-com bubble. Sycamore had never posted a profit but received a capitalization of $1.5 billion based on an offering price of $18–20 per share. On the first day of trading, the opening share price was $270, which valued the company at $20 billion for a business that had started less than two years earlier and had never made money. In March 2000, its market value was $45 billion, over $600 per original share. Implicitly, investors valued this firm more than companies such as Nike, BMW, or Seagram. But in 2004, the stock had tumbled below $20 per share. In 2013, the share price had dropped to mere pennies. With a market value of $66 million, the shareholders voted to dissolve the company.

There are also drawbacks to being a public company.

- There is much less confidentiality for a public company; for example, the salaries for top managers are disclosed. Extensive disclosure of company financial information is required, especially when it is unfavorable.
- Even small IPOs can easily cost hundreds of thousands of dollars.
- The cost of regular compliance with regulation is costly. There are reporting requirements, and they require extensive and expensive legal, accounting, and investment banking services.
- Owing to their increased exposure, public companies are an easier target for pressure groups such as environmental, child protection, and morality groups, and may face various boycott campaigns.[146]
- The control and vision of the founding managers are diluted by the addition of the new shareholders.
- Share fluctuations can be costly and, in some circumstances, place a public corporation in serious peril.
- Managers fixate on the short-term price of the stock, and could potentially be ignoring future risks, opportunities, and long-term growth.

When a company wants to finance through public markets (whether debt or through equity) most often it will need to rely on the services of investment banks. In the banking world, one distinguishes between retail banks (for personal financing needs such as a checking account, a mortgage, etc.), commercial banks (dealing with businesses about deposits, loans, etc.), and investment banks. The latter are specialty institutions that function mainly like advisors for big companies with respect to financing needs. There are only a few sizeable investment banks in the world and in a country (such as Goldman Sachs or JPMorgan in the USA). The services of an investment bank consist of four major functions:

- Providing advice on issuance, purchase, and sale of securities, and on other financial matters.
- Providing capital for corporations and local governments by "underwriting" and distributing new issues of securities. "Underwriting" is the process of purchasing all new securities from a corporation at one price and selling the issues in smaller units to the investing public, usually with a markup. The investment bank is running the risk of not being able to place all shares and being stuck with unsold securities. Sales make up the core of an investment bank. Salespeople are "retail brokers," institutional salespeople, and private client service representatives. Sometimes, in a so-called "private placement," corporate issuers sell entire issues of securities directly to one or more institutional buyers, such as insurance companies, without registering the issue for public sale.
- Maintaining markets in securities by trading and executing orders in secondary market transactions. Aftermarket trading begins after the new issue has been sold to buyers, at an issuing price.[147]
- Providing a "stamp of approval," that is by adding their credibility to investors who must decide whether to commit their funds.[148]

143 Investopedia. "What are the advantages and disadvantages for a company going public?" November 12, 2010. Last accessed July 20, 2012. ► http://www.investopedia.com/ask/answers/06/ipoadvantagedisadvantage.asp.

144 Inc. "Weighing the Benefits of Hitting the IPO Road." November 1, 1999. Last accessed May 19, 2017. ► http://www.inc.com/articles/1999/11/15714.html.

145 Kelly, Peter. "Finance and Venture Capital Markets." In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen and Antti Ainamo. (New York: Springer, 2003), 211-234.

146 The Economist. "The Business of Making Money." July 5, 2007. Last accessed July 5, 2007. ► http://www.economist.com/displaystory.cfm?story_id=9440821.

147 Investopedia. "A Look At Primary And Secondary Markets." November 20, 2010. Last accessed July 20, 2012. ► http://www.investopedia.com/articles/02/101102.asp#axzz1Qg8yNJve.

148 Callard, Abbey. "Banks, Firms, and Houses: Deciphering The Terms in the Financial Crisis Coverage." *Slate*. September 18, 2008. Last accessed July 20, 2012. ► http://www.slate.com/id/2200410/.

Examples for IPOs in the information and communications technology (ICT) sector are:

- 2011: Demand Media, Groupon ($750 million), Zynga, and Carbonite;
- 2012: Facebook, Living Social, Dropbox, Spotify, Yelp, and Kayak;
- 2013: Twitter, Tableau Software, and MakerBot Industries;
- 2014: Alibaba, Coupons.com, GrubHub (Seamless), GoPro, and King Digital Entertainment (Candy Crush);
- 2015: Box, GoDaddy, Match Group (Online Dating),
- Shopify, and Square.
- 2016: Trevago, Ichor, Acacia, Apptio, Black Line, Carbon Black, Coitvit Holdings, Coup Software, Everspin.
- 2017: Roku, Stitch Fix, Blue Apron, Snap, Forescout, Yext, Alteryx.
- 2018: DocuSign, Smartsheet, Spotify, Dropbox.

Traditional IPOs are cumbersome and expensive. There have therefore always been efforts to make it easier and less bureaucratic for small companies and start-ups to enter capital markets and reach potential investors. In 1976, the option of direct public offerings (DPOs) was established in the USA. More recently, there have also been moves to use new technology and use online platforms so that small companies can reach small investors. US securities laws have several DPO provisions.

- SCOR offerings (Small Company Offering Registrations): available since 1982. A company can raise up to $1 million per year with relatively low requirements, and with exemption from state ("blue sky") securities laws. Stock trading is referred to as an "over-the-counter" sale of securities, since the SCOR stock may not be sold in the regular stock exchanges.
- Regulation D stock offerings: this is for a limited "private" offering of stock to selected individuals rather than to the public at large. A company can raise up to $5 million in a 12-month period. The company can have an unlimited number of investors but these must be "accredited," basically rich individuals or institutions and thus aware of the risks or able to absorb them. The shares must be held for at least six months before they can be resold.[149]
- Regulation A+ offerings (known also as "mini-IPOs"): in force since 2015.

Once a small company qualifies to issue stock, it can use a variety of ways to offer and sell these securities to investors. Technical progress has improved the ways they can reach the public.

DPOs over the internet have risen in popularity. A full registration is still necessary but a company can raise capital directly from small investors in small amounts, without an intermediary investment bank or broker-dealer. This route may be used by small firms that cannot find an investment bank interested in handling their business. It is then marketed via the internet directly.

How is this done? A relatively new method of financing productions is microfunding, also called crowdfunding, where small investments are provided by a large number of enthusiasts for the technology or the creation. Here, "equity crowdfunding" that involves small direct investments in a company must be distinguished from the provision by users of money that is more in the nature of a reward, donation, or loan.[150] In "rewards crowdfunding," the contributor receives a product or service once the company is operating. It is, in effect, a pre-sale of products such as software, a film download, technology devices. PebbleWatch raised $10 million in a single month with the promise to deliver the connected watches once they were being produced. In contrast, "donation crowdfunding" involves a voluntary contribution by a fan to a creator, without an expectation of a benefit in return. Such projects include independent films, plays, music, journalism stories, video games, technology projects, even scientific research. For example, small-scale independent music might be funded by "fan-angels" in this way, utilizing microfunding donation-oriented websites such as Kickstarter, ArtistShare, or IndieGoGo. An artist pitches her project, sets a monetary goal and a deadline, and hopes that fans will become patrons of the project.[151] The average contribution is about $25. Kickstarter received about $2 billion in pledges from almost 10 million backers for over 250,000 creative projects. Donation platforms might also be purely charitable, such as DonorsChoose.

There is also crowdlending, in which people lend small amounts to projects they consider promising or worthy. Platforms for such peer-to-peer lending include Lending Club, Zopa, Kiva, LendInvest, Seedrs, and Prosper Market Place.

Equity crowdfunding platforms include Seedrs, EquityNet, AngelList, Crowdfunders, and CrowdCube. To the start-up company seeking funds, crowdsourcing provides an access to a wide pool of potential funders. Beyond the money raised, advantages are the creation of word-of-mouth publicity as contributors pass the word to others. Investors provide feedback and engagement with the venture. The extent of public response is also a gauge for the market potential of a new product.

Equity crowdfunding is treated as a form of public offering of securities. Government concern with internet-based IPOs is that they invite fraud and manipulation because the internet provides an anonymous environment to inveigle money out of gullible investors. Securities laws in the USA therefore put conditions on equity crowdfunding.

149 Under Rule 505 of Regulation D, the company cannot have more than 35 "non-accredited" investors. The shares may not be sold via a general solicitation or advisement. Under Rule 506 of Regulation D, the shares can be advertised and generally solicited if it can be shown that the targeted investors are all "accredited" investors and the company took reasonable steps to verify this.

150 Fundable. "Types of Crowdfunding." ▶ https://www.fundable.com/crowdfunding101/types-of-crowdfunding.

151 Billboard. "Rethink Music's 'Financing Creativity' Panel Explores Concept of Fans as Patrons, Not Consumers." April 26, 2011. Last accessed May 19, 2017. ▶ http://www.billboard.biz/bbbiz/industry/indies/rethink-music-s-financing-creativity-panel-1005154602.story.

In the USA, the Jumpstart Our Business Start-ups (JOBS) Act was passed into law in 2012.[152] It included rules on crowdsourcing. More detailed regulations became effective in 2016. These rules made crowdfunding easier but also established regulations and self-regulation. A company is limited to raising a maximum of $1 million across all crowdfunding platforms in any given year. There are fairly extensive disclosure requirements, many of which involve competitively sensitive and/or confidential details. The detailed financials must be certified by the executives if it raises less than $500,000, and reviewed by an external auditor if the raise is more than $500. Management must discuss the financial condition of the company, its business, its plans, and the anticipated use of proceeds; there must also be details on the officers, directors and 20% shareholders; and disclosure of related-party transactions.

Where an investor earns or owns less than $100,000, his annual investment in crowdfunded securities is capped at $2000 or 5% of annual income or net worth, whichever is higher. Each crowdsourcing offering must be exclusively conducted through one online platform, and that platform must be registered and approved. The intermediary operating the platform must be a broker-dealer or a funding portal that is registered with the regulators SEC and FINRA.[153] Examples are MicroVentures, Circle Up, and Second Market. If crowdfunded securities are sold through such qualified intermediaries, they are exempt from a number of stricter regulatory requirements.

A company must file annual reports and continuously update its crowdfunding disclosures for so long as any crowdfunding shareholders remain. A company must become a "public" reporting company if it has 500 or more investors.[154]

Investors can receive income in a variety of ways: through dividends, revenue-sharing, or stock appreciation. However, one restriction is that shares bought through equity crowdfunding are not liquid. Like shares sold through private placements, the stock acquired in equity crowdfunding cannot usually be sold for at least one year. There is no marketplace or exchange for these shares, and there may never be one as long as the company does not register with the SEC as a public company.[155]

Certain companies are not eligible to use the relaxed rules on crowdfunding. These include non-US companies, for example.[156]

The crowdsourcing concept and rules received much media coverage over the opening of opportunities for small entrepreneurs. There was almost no questioning of the cost of capital raised in such a way. Yet the transaction costs are still formidable. Assuming a $100,000 funding amount, these are some of the estimated costs[157]: preoffering disclosure costs $5000, portal cost $7500; NPV of annual disclosure requirements of $10,000 over five years: $35,500; transfer agent $100 per month over five years; extra insurance for directors and officers over five years $13,000. This adds up to extra costs of $67,000 for a $100,000 financing, a hefty cost of capital of 67% even before any dividend payments. For a company seeking a larger financing, $1 million, these costs get distributed over a larger amount raised and the cost of capital declines to 25%. And that is not all. There is also the opportunity cost of management time to prepare disclosures, valued at $15,000 per year, for an NPV of $53,200. If that is taken into account for the smaller company, the amount of money brought in is actually less than the cost it took to raise it. Why are these cost numbers so high? It is true that for crowdfunding regulatory requirements have been somewhat relaxed over traditional methods. But enough of these requirements remain, while the amount of money that can be raised is capped, resulting in a fairly substantial cost per dollar raised.

And even that is not all. The other cost element for the company issuing shares by way of equity crowdfunding—as it is for every IPO—is the giving up the gain of a future appreciation of the stock, as well as dilution of control. Such gain is speculative, of course. In the case of a start-up with prospects that are uncertain enough to deter more conventional investment banks, an investor might expect, in return for the risk, a substantial appreciation of the stock over time. If we assume a tripling of the stock over five years, this would be an appreciation at a compounded rate of 25% per year. That would be added to the cost of capital.[158] Taken together, the cost of financing, not including the opportunity cost of management time, is 92%.

Impact of IPOs on Media Content and Conduct

When a project is funded by public equity, its managers are held responsible by shareholders. Public corporations therefore need to show more caution, which makes them move more slowly. They also follow a purer profit orientation to satisfy shareholders. There is less willingness to produce educational or socially beneficial content unless this, too, helps profits. They take fewer risks and pursue safer content or technology projects. They also have a greater short-term earnings orientation. In short, they are, all other things being equal, more risk averse, and less innovative.

152 Goodwin Procter. "The JOBS Act: The Emerging Possibilities for Crowdfunding." April 25, 2012. Last accessed October 22, 2012. ► http://www.goodwinprocter.com/Publications/Newsletters/Client-Alert/2012/0424_JOBS-Act-The-Emerging-Possibilities-for-Crowdfunding.aspx.

153 United States Securities and Exchange Commission. "Regulation Crowdfunding: A Small Entity Compliance Guide for Issuers." May 13, 2016. Last accessed May 19, 2017. ► https://www.sec.gov/info/smallbus/secg/rccomplianceguide-051316.htm.

154 Mirabile, Christopher. "2016 Crowdfunding Rules: How the Restrictions Work and Why it Matters to You." *Inc.* April 11, 2016. Last accessed May 19, 2017. ► http://www.inc.com/christopher-mirabile/2016-crowdfunding-rules-how-the-restrictions-work-and-why-it-matters.html.

155 Almerico, Kendall. "What the New Equity Crowdfunding Rules Mean for Entrepreneurs." *Entrepreneur.* November 2, 2015. Last accessed May 19, 2017. ► https://www.entrepreneur.com/article/252315.

156 United States Securities and Exchange Commission. "Regulation Crowdfunding: A Small Entity Compliance Guide for Issuers." May 13, 2016. Last accessed May 19, 2017. ► https://www.sec.gov/info/smallbus/secg/rccomplianceguide-051316.htm.

157 SeedInvest. "Title III Crowdfunding Cost Model." Last accessed May 19, 2017. ► https://docs.google.com/spreadsheets/d/1g2ZOtUy5jd6s4-j0cNaSFoYMZcpJqKXQhVEfNOBRei4/edit#gid=0.

158 All calculations assume that the company succeeds over a five-year period.

Case Discussion

Initial Public Offering

A TWIT IPO, in which TWIT issues its own standalone shares, is difficult to arrange and comes with high cost relative to other financing options. TWIT on its own would have complications with a listing on a major stock exchange, as it does not meet requirements in terms of track record and so on. But it could probably have its stock listed on a smaller exchange. A TWIT IPO would also dilute the parent company's control over TWIT as it would have to share ownership with other investors. TWIT would need to comply with government regulations which can be intrusive and costly. But as an alternative, the parent company could just issue more of its own stock to finance this venture, as a secondary public offerings (SPO).

SNIT would not be able to undertake an IPO. It has no operating history. Even smaller stock exchanges require that a company have several years of pretax earnings, profitability or cash flow and a minimum market capitalization. However, after several years with a combination of a proven financial track record, VC funding, and VC guidance SNIT could aim for an IPO. Taking SNIT public at a good share price could make several categories of people rich: the founders, the financial backers, and those employees who had been partly compensated by shares. Financially, this is the goal of many start-ups. For example, suppose each of the founders had invested $100,000 and has 20% ownership, with 1 million shares outstanding, and that the company issues 10 million additional shares at a price of $20. Then each of the founders now holds a value of $4 million, 40 times the original investment. If the share price rises, as IPO stock often does, their stake would rise correspondingly still further.

Should SNIT use crowdfunding? For once, ironically, SNIT may be too large a project. It is seeking $100 million in financing. Barely over ten crowdsourcing projects have been funded for more than $10 million, most of them video games or "rewards crowdsourcing" projects that were, in effect, presells of products. SNIT could not expect a huge surge in small equity investor interest, and preselling of subscriptions does not seem to have major prospects. Thus, the expected money that could be raised for equity is likely to be modest in size. And at what cost? The various cost of raising and maintaining equity crowdfunded capital for $1 million is 25%,[159] plus the foregone capital gains, estimated at 25% for a tripling of the stock price over five years. There are also significant opportunity costs for the management time required to prepare the periodically required disclosure statements, foregone dividends if those get distributed, and a dilution of control. Altogether this does not seem to be an attractive funding option for SNIT: a limited amount of money that can be raised, yet at a high cost and with many headaches of regulatory requirements.

6.8.1.5 Secondary Public Stock Offerings

Factors for SPOs

An SPO is the issuance of new stock for public sale from a company that has already made its IPO in the past. It is a way for a company to increase its outside funding. SPOs are usually easier than IPOs because the company is already known and market valuations are available. SPOs usually have an abbreviated marketing period of one to three weeks. New shares will always be priced below the stock market price to attract buyers, and because prices on the existing shares tend to dip owing to the dilution. Confidentiality is therefore important in an SPO because advance knowledge about a firm's impending sale of shares would lead to a decline in its share price prior to the SPO. In some cases, existing shareholders are invited to buy the new stock, usually at a discount to market price.[160] In most European countries, shareholders must be given a first shot at purchasing any secondary stock, so that their stake will not be diluted.[161]

An SPO can also be a "sucker round," in which a company issues additional stock if it thinks the stock price is overvalued. This sometimes also answers the question why a company with a good financial performance would not raise debt instead of issuing additional shares, since debt is cheaper than equity. In 2005, Google raised some $4 billion through an SPO. The reason for this offering, it was speculated by some, might have been that Google believed its stock price was very high (the IPO stock price in 2004 was $85, and a year later, at the SPO, $295), and that it wanted to "cash in" and raise money while the stock was overpriced. If so, the company underestimated and thus miscalculated. In 2016, its shares traded for $770. Google's owners thus gave up a lot of value for issuing the SPO at the much lower price rather than taking on debt.

One type of SPO is the depositary receipt (DR). This is a method for foreign company to raise money in another country and have its shares traded on that country's exchanges.

Case Discussion

Secondary Stock Offerings for TWIT Versus SNIT

Secondary Offering TWIT

Time Warner could readily have a secondary stock offering to fund TWIT's required $1 billion. However, it would be diluting its share price and reduce of earnings on a per share basis, at least in the short run. The cost of equity is expensive at an estimated 18% interest. Moreover, if the share price is low and expected to rise in the future, this would be an even more expensive way to finance TWIT.

SNIT is unable to offer an IPO, and thus cannot put out a secondary offering.

159 SeedInvest. "Title III Crowdfunding Cost Model." Last accessed May 19, 2017. ► https://docs.google.com/spreadsheets/d/1g2ZOtUy5jd6s4-j0cNaSFoYMZcpJqKXQhVEfNOBRei4/edit#gid=0.

160 Financial Times. "Definition of Rights Issue/Offering." November 12, 2010. Last accessed July 20, 2012. ► http://lexicon.ft.com/term.asp?t=rights-issue-%2F-offering.

161 QFinance. "Raising Capital by Issuing Shares." November 12, 2010. Last accessed July 20, 2012. ► http://www.qfinance.com/financing-checklists/raising-capital-by-issuing-shares Raising Capital by issuing shares.

6.9 The Ownership of Media and Communications Companies

"Equity financing" means, in plain language, "ownership." We will now look at such ownership.

6.9.1 Individual and Family Ownership of Media

The media, communications, and ICT field has been a source of great wealth. In 2000, 99 (almost one-quarter) of Forbes 400 richest individuals in America had earned their prosperity in the media and communication fields. The 2011 Forbes 400 list includes 119 individuals whose wealth derives from the media, IT, and telecoms industry.[162] This does not include the many financiers who made fortunes in the media field, such as Warren Buffett or Ron Perelman.

Individual ownership varies by industry. Top telecom networks companies rarely have major individual owners. The main exception is America Movil in Latin America, with Carlos Slim of Mexico holding 52%. Several other large platform firms with high individual ownership stakes originated as a media or internet company and added a presence in platforms. They are 21st Century Fox (and its Sky TV platform), controlled by the Murdoch family; Softbank in Japan, owned by Masayoshi Son; and Comcast, owned by the Roberts family. Most of these companies have a dual stock structure to allow the individual owners to maintain control while accessing outside capital. The other major platform companies are majority owned by large institutional investors or governments, and have no dual stock structure.

In contrast, content-oriented media firms around the world tend to be privately owned. Most of the top content companies have major individual or family owners—Globo Group (Marinho family, Brazil); Largardère (Lagardère family, France); Bertelsmann (Mohn family, Germany); Fininvest (former Prime Minister Berlusconi, Italy); Softbank (Masayoshi Son, Japan); Fuji Television (Shikanai family, Japan); TF1 (Bouygues family, France); Fox/News Corp. (Murdoch family); Google (Larry Page and Sergey Brin); Comcast (Roberts family); Liberty/Charter (John Malone); CBS/Viacom (Redstone family); Baidu (Robin Lee, China); Yomiuri (Shoriki family, Japan); Vivendi (Bolloré family, France); Disney (Steve Jobs family with 7.8%).

Many companies are controlled by their founders/entrepreneurs, or later by their top managers who also own significant stakes in the company. Newspapers, in particular among media companies, have traditionally been owned by individuals and families. Even where they are publicly traded companies, the decision-making power is usually exercised through special voting stock that is untraded. In other cases, control can be exercised through a family-controlled foundation. In Europe, the media companies WAZ, Bonnier, and Holtzbrinck are 100% family owned. Springer (60%) and Mediaset (48%) are heavily family dominated.

A study of media ownerships around the world shows[163]:

- In 2013, there were 56 media billionaires as individuals or families in 30 major countries surveyed.[164]
- Among traditional media, significant wealth is encountered in TV (19), newspapers (11), magazines (8), film (6), and even books (3).
- Of the billionaires, two-thirds substantially created their media properties themselves (37) rather than inheriting established firms (19).
- The "new media billionaires" were mostly active in internet (12), mobile telecoms (11), and information services (2).
- A significant share of the 56 billionaires are US citizens (22); 4 each from Japan and France; 3 from India; 2 each from Germany, Canada, Turkey, and China; 5 from Latin America; and 2 from Africa.
- Of the 17 media billionaires in developing countries and the so-called BRICS (Brazil, Russia, India, China, and South Africa), half originated in "new" media—mobile telecoms (7) and the internet (2). The other half is based in the classic old media of TV (7) and publishing (1), run by very established families.
- The top ten individual owners hold, in aggregate, $225 billion worth of media companies. The top 20 individual owners hold $313 billion. The top 50 had $422 billion.

"Insider ownership" includes the founders and their families but also unrelated managers and directors if they hold some ownership stakes and have knowledge of valuable non-public information.

IT firms typically start out with a high insider ownership but this declines over the years because of the growth cycle of companies from founder-controlled start-up to a giant established corporation. Microsoft, for example, was owned 66% by the insider-founders in 1988, but that share declined to 23.6% in 2005 and 11.6% in 2011.[165]

6.9.2 Institutional Investors

For many companies, the largest owners are institutional investors such as State Street, Vanguard, or Fidelity. The main categories of institutional investors are:[166]

- mutual funds
- pension funds
- hedge funds

162 Kroll, Luisa. "The Forbes 400 – The Richest People in America." *Forbes.* September 21, 2011. Last accessed October 4, 2011. ► http://www.forbes.com/forbes-400/list/.

163 Noam, Eli. *Who Owns the World's Media? Media Concentration and Ownership Around the World.* New York: Oxford University Press, 2016.

164 There were other billionaires who own media properties but at a level below $1 billion in media.

165 Fidelity. "MSFT Ownership and Insiders." Last accessed November 15, 2010. ► http://eresearch.fidelity.com/eresearch/evaluate/fundamentals/ownership.jhtml?stockspage=ownership&symbols=MSFT.

166 The term "institutional investors" formally applies only to entities that hold themselves out as primarily engaged in investing, reinvesting, or trading securities. Accordingly, actual institutional ownership of media companies may be understated by most data sources. For example, if Company A is partly owned by a Company B, which does not fall into the category of "institutional investor," then B's investment will not be counted in the overall institutional ownership figures for Company A, even though B may be largely owned by institutions. Moreover, the SEC does not require disclosure of institutional investors that own less than 5% of a company. However, many companies list such ownerships anyway.

- insurance companies
- endowments
- trust departments of banks.

Institutional owners control the shares they hold in two ways. First, they own shares outright in their own account, partly to earn a dividend return and often for the potential gain in value. In some cases they might have been part of an investment bank consortium that created and marketed the public shares in an IPO or SPO, and they may have kept shares for gradual sale.

The second was for financial institutions to control share is to hold them as asset managers. They manage other people's money through various forms of investment funds which they run.

Institutional ownership is not a recent phenomenon, but it has increased with the growth of mutual funds and pension funds. Mutual funds are companies that seek and manage the money of investors and invest it in a portfolio of stocks, bonds, and other assets. They attempt to optimize return for a given risk level or category of investment. In some countries, government rules aimed at protecting investors from imprudent risk-taking limit fund investment in any single company to no more than, for example, 5% of assets, and to no more than 10% of any company's outstanding shares.[167] This limits the capacity of any individual fund to exercise much control over a firm.

Aggregate pension fund assets in the USA increased from $260 billion in 1975 to $1.7 trillion in 1990, to $7 trillion by 1998, and $22.1 trillion in 2014. For 16 major OECD countries, institutional pension funds managed $23.3 trillion in 2009 and $36 trillion in 2014.[168]

Generally, the stake of institutional investors is much larger than those of individuals. In 2013, State Street had $65 billion invested in major media and digital companies. Rupert Murdoch, in comparison, had "only" $11.6 billion. Dodge & Cox, with $20 billion, had more money tied up in media than Berlusconi, Malone, Redstone, and Lagardère combined. The largest institutional investor in the top 20 media platform companies was the Vanguard Group, based in the USA. Vanguard owns shares of ten of the top 20 platform companies, with a total value of $47.5 billion, and shares of 12 of the top 20 content companies, valued at $49.8 billion. Vanguard is invested in almost every major media and digital company—in the USA, the five major TV networks and content providers, the three major traded cable TV companies, and two major search engines; in Europe, three major TV companies; in Canada, Singapore, France, and Germany, major telecoms.

More interesting than the components of the portfolio is their magnitude (Table 6.5). Vanguard is hugely invested in Google ($20 billion), Comcast ($11 billion), Disney ($10 billion), Time Warner ($5 billion), and 21st Century Fox ($5 billion), not counting another $3 billion for the TWC spin-off. Its stake in Google was almost as high as those of company founders Brin and Page (though without the voting power). It holds more shares in Comcast than the Roberts family (again, without the votes). It is by far the largest shareholder in Time Warner, Liberty, Disney (except for Steve Jobs's widow), and so on. Thus, on any objective measure it is a huge media investor and owner. And yet hardly anybody has heard of its CEO, F. William McNabb III, or of its headquarters location, Malvern, Pennsylvania.

The total media assets of the top ten institutional owners add up to $332.5 billion; the top 20 have $423.4 billion, and the top 30 have $449 billion. Of overall global media value, estimated as $4.7 trillion excluding state-owned media, the top ten institutional owners hold 6.1%, and the top 30 hold 9.6%.

Of the headquarters of the top 30 asset management companies, most (73%) are based in the USA (22 companies). There are several reasons:

- US-based asset management firms are particularly active and operate in other major financial centers. Overall, North American firms account for 50% of the asset management industry's funds under management. UK firms have about 10% and there are about 5% each for Switzerland, Japan, Germany, and France.[169]
- The old-age pension system in the USA is based on individual investment accounts (such as 401(k) plans) rather than on a tax-based "pay-as-you-go" governmental pension plan as is prevalent in Europe.
- In the USA, there are many huge endowments of private universities, museums, and so on, that are run by asset management firms.
- There exists a greater willingness and ability to invest in pension funds and other forms of savings in equities (stocks) rather than bonds, which are safer in producing income but do not provide ownership rights.

For these and other reasons, the stock investment portfolios of US-based institutional investors are quite large and are spread around the world. Given the size and expertise of the asset management firms, they also attract investment funds to manage from investors around the world, not just the USA.

Institutional investors are usually viewed as primarily concerned with short- or medium-term gain, gauging corporate performance solely according to stock price and earnings. But institutional investors cannot easily liquidate

167 In the USA, institutional investors are required to file disclosure information when they own 5% or more of a publicly traded company. They are limited in their ability to profit on shares held for less than six months once they reach the 10% ownership threshold. If a mutual fund wants to promote itself as "diversified" and gain pass-through tax benefits, then the regulated 75% of the fund cannot own more than 10% of a company in its portfolio. Furthermore, a "diversified" fund cannot have more than 5% of its total assets invested in a single company (Investment Company Act of 1940). Therefore only 25% of a fund, the unregulated portion, can be concentrated in a single stock. Pension funds fall under the Employee Retirement Income Security Act of 1974 (ERISA), which requires each fund to diversify. But under ERISA, pension fund managers are given some leeway to avoid diversification if it is "clearly prudent" not to do so.

168 Towers Watson. "Global: Global Pension Funds Up by 15% in 2009." November 12, 2010. Last accessed July 19, 2012. ► http://www.towerswatson.com/research/1380.

169 Towers Watson. "The World's 500 Largest Asset Managers." November 11, 2013. ► http://www.towerswatson.com/en/Insights/IC-Types/Survey-Research-Results/2013/11/The-Worlds-500-Largest-Asset-Managers-Year-end-2012.

Table 6.5 The media holdings of the Vanguard Group (September 2013)

	Companies owned	Number of shares	% of company owned	% of voting power	Value of shares ($ millions)
The Vanguard Group (USA)	Google (USA) A	23,255,893	6.90	2.70	20,616
	Comcast (USA) A	227,152,526	8.60	7.10	9,981
	Comcast (USA) K	25,104,652	0.95	0	1,006
	Disney (USA)	148,460,516	7.40	8.40	9,612
	Time Warner (USA)	84,839,919	9.10	9.10	5,383
	21st Century Fox (USA) A	152,697,912	6.60	0	4,999
	Time Warner Cable (USA)	26,529,901	8.90	8.90	2,986
	Yahoo (USA)	87,549,068	7.90	7.90	2,649
	CBS (USA) B	46,523,377	7.40	0	2,601
	Liberty Global (Malone) (USA) K	12,282,027	4.80	0	914
	Liberty Global (Malone) (USA) A	11,144,802	4.30	4.58	873
	Liberty Media (Malone) (USA) A	4,461,937	3.70	2.12	652
	China Mobile (China)	29,434,000	1.50	1.46	334
	Singapore Telecommunications (Singapore)	7,802,432	0.05	0.05	179
	Vodafone Group (UK)	50,117,938	1.00	1.03	168
	Rogers Communications (Canada)	1,624,590	0.31	0.31	76
	Telefonica (Spain)	4,180,947	0.09	0.09	64
	Bouygues (France)	1,649,698	0.50	0.56	59
	Lagardère (France)	1,706,578	1.30	1.17	54
	Shaw Communications (Canada)	1,862,797	0.41	0	45
	Deutsche Telekom (Germany)	3,211,193	0.08	0.08	45
	TELUS (Canada)	1,053,142	0.17	0.17	36
	China Telecom (China)	68,850,000	0.09	0.09	36
	Vivendi (France)	1,409,341	0.11	0.11	33
	TDC (Denmark)	3,214,884	0.40	0.40	27
	Sony Corp. (Japan)	1,061,478	0.10	0.10	23
	France Telecom (France)	1,921,686	0.07	0.07	23
	ProSiebenSat.1 (Germany)	505,387	0.23	0.23	21
	Total, including stakes <15 M				63,800

very large stakes and are therefore often in it for the long haul. They have the capability to intervene, and top management knows that. In 1997, institutional investors became dissatisfied with the composition of Walt Disney's board of directors, which *Business Week* had named the "worst board in America." It included individuals with close ties to CEO Michael Eisner, such as his personal attorney and his architect. Eisner was forced to make changes in response to the institutional investor criticism, but his troubles with institutional and pension funds continued, and they led, eventually, to his ousting.

In 2003, US mutual fund Tweedy Browne, which held 18% of the shares of newspaper holding firm Hollinger International, initiated an investigation that uncovered misspending at the newspaper chain (*Chicago Sun-Times*, *Daily Telegraph*, and several other papers). The discovery led to the resignation of Lord Conrad Black from his position as CEO, the sale of the company, and to Black's criminal conviction.

In 2006, several institutional shareholders, led by Carl Icahn, challenged Time Warner's conglomerate structure, advocating a breakup of the company. They argued that the sum of the parts was more valuable than the whole. Time Warner's management opposed the shareholder resolution and prevailed in a formal sense. But within a few years it sold or spun off these parts of the company: Warner Music Group, Time Warner Cable, AOL, TW Telecom, Time Books, and Time Inc. magazines. By 2014, Time Warner itself was a target of acquisition, with AT&T making the deal in 2017.

Institutional investors' challenges increased in the 2010s through the emergence of "activist" hedge funds. For example, Daniel Loeb's hedge fund, Third Point, challenged Sony, and Carl Icahn went after Apple and eBay. At issue in these fights are dividends, buy-backs of shares, "poison-pills," board voting procedures designed to entrench management, divestiture of assets and divisions, reduction in research and development (R&D) investments, employment, and management compensation.

Have institutional investors had an impact on content? The actual ownership of each institutional investment firm in each company and sector may be small and fragmented. No single investor firm owns a majority or could establish control. However, in the aggregate institutional owners can influence company decisions through their buy and sell decisions, affecting the value of the stock and sending signals of support or skepticism to management.

In theory, fund managers might be tempted to oppose content that would negatively affect other holdings of their portfolio.[170] If Fidelity holds large ownership positions in tobacco companies and in Disney, it is possible that Disney's ABC TV network management might pull its punches in producing programs about the harms of nicotine. Since direct intervention by institutional owners would rarely remain confidential and then backfire, such interventions are either rare or they are implicit and require no direct communication. In contrast, for individual ownership there is ample evidence for direct intervention by the major individual owners into content matters, including on just that tobacco issue.

Generally, institutional investors will prefer safe mainstream content rather than controversial material that may make some of their investors unhappy. Similar incentives for safe mainstream content exist also for corporate media management and for individual owners, unless their personal politics and commercial interests are intermingled. Institutional ownership might affect content quality through greater pressures for short-term profitability. Yet it may also shield managers from control by erratic principal owners.

6.9.3 Governmental Ownership

In many countries, there are public service television organizations that are either directly controlled by the state or indirectly through politically appointed boards that may reflect the government in power or a more pluralistic makeup. These broadcasting organizations are quite often the largest and/or most influential media organization in their country.

Around the world, many of the large incumbent telecom network companies, even after their privatizations (fully or partly) in the 1980s, also have major majority ownership stakes held by their governments. This includes NTT in Japan (33% state ownership), Deutsche Telekom in Germany (32%), Orange in France (27%), China Telecom, China Unicom and China Mobile (100%), Svyazinvest in Russia (53%), and Telkom in South Africa (50.7%). These governmental ownership stakes are particularly high in companies with fragmented private stock holdings.

Other ownership models are those by employees (e.g. *Der Spiegel*), non-profit organizations such as the Bertelsmann Foundation, churches or universities, or by community groups. (e.g. Ohmynews in South Korea).

6.9.4 The Impact of Ownership on Content

Ben Bagdikian, Pulitzer Prize winner and Dean of the Berkley Journalism School, writes: "The fifty men and woman who head these corporations would fit in a large room. They constitute a new private ministry of information and culture."

Lawrence Lessig, an influential law professor, expands on this theme: "This narrowing has an effect on what is produced. The product of such large and concentrated networks is increasingly homogenous. Increasingly safe. Increasingly sterile."

Is this true? Factually, media ownership concentration has been rising, but nowhere close to Bagdikian's domination of all media by five companies and Lessig's fear of three. Analytically, it is not clear why corporate size would increase a profit-orientation. Commercial firms, whether large or small, will operate in a profit-maximizing fashion, which generally includes cost-cutting and audience maximization. Is a $10 billion company more interested in profits than a $1 million firm because it is run by distant managers? Or is it less interested because these salaried managers care less about the bottom line? Or is it all the same and differences are random? One could argue this three ways.

Some of the most socially benign firms in terms of generosity to community welfare in the USA were those with a near monopoly market position, and consequent high profits and lower cost pressures. Examples are AT&T, Xerox, Polaroid, and IBM in their peak years; or CBS, NBC, and ABC when they accounted for most of the TV audience; or local newspapers with near monopolies before the internet began to erode their revenues.

If individual owners are in control (whether Rupert Murdoch, Silvio Berlusconi, William Paley, Henry Luce, William Randolph Hearst, or Axel Springer) their personal power and empire-building tendencies may become a problem. Furthermore, their heirs may not be well suited for the responsibility, power, and management challenge of the job.

170 Soloski, John, and Robert Picard. "The New Media Lords: Why Institutional Investors Call the Shots." *Columbia Journalism Review* (September/October, 1996): 11.

The argument is often advanced that institutional investors are more performance oriented than individual shareholders of the past. The pressures of fund managers on media managers for profits are often said to be a major factor in changing the nature of media behavior and quality. It forces cost-cutting that lowers quality; panders to sensationalism to gain audiences; and is subservient to advertisers, which reduces courage.

But the causality is not clear at all. It requires us to believe that individual owners, especially large ones with a big stake, care less about a firm's financial return than the relatively small beneficiaries or managers of a mutual fund, in which a media firm is only a small component, or the managers of such a fund. The investor in such a fund seeks diversification, and reasonably assumes that some shares will perform better than others. Some fund managers will quickly sell a poorly performing stock. But other funds are in for the long haul. Still others invest in risky firms, for the upside potential. Still others prefer "pure plays" of specialized firms over conglomerates, and will exert direct or indirect pressures for such firms to streamline themselves rather than grow.

With insider-financing, owners are in clear control, which can result in a reflection of their own opinions and aesthetics, with both positive and negative implications.

In contrast, outside financing results in a lower autonomy of the managers to diverge from profit maximization. In a public stock company, financial fiduciary obligation to shareholders is supposed to guide management behavior. Shareholders often hold diverse views and object to their money being used for politics or aesthetics they do not support.

When it comes to debt, lenders do not usually require profit maximization, only financial soundness, and will therefore give management more autonomy, up to a point.

6.10 Capital Structure

We have looked in the previous sections at various funding options and ownerships. We now address the questions of what mixture, if any, is the best for a firm. This is usually described as the optimization of the "capital structure"—the mix of debt and equity capital of a firm. Some firms or some industries depend more on debt, others more on equity. Within each funding category there are sub-sets, such as short-term and long-term debt or public and private equity. The overall mix is the capital structure. This composition tends to change over time, depending on interest rates, share prices, and the growth cycle of companies and industries.

The simplest measure of how much debt and equity a firm is using is the proportion of debt to total financing sources.

Debt-to-Capital Ratio = Debt/(Debt + Equity).[171]

For example, the capital structure for incumbent US telecom firms is made up of about 60% debt,[172] and 40% equity. Their debt-to-capital ratio = 60%.

Other terms for the same concept are capital gearing, leverage, or debt-to-equity ratio. The abovementioned debt-to-capital ratio of 60% (or 0.6) translates into a debt-to-equity ratio of $\frac{60\%}{40\%} = 1.5$.

Firms with no debt on their balance sheet are called unlevered companies. After the issuance of debt, the firm becomes levered or geared. Start-ups usually have no access to debt and by necessity favor equity. Their debt/equity ratios are therefore lower than those of established companies such as telecom operators. The median "new economy" firm in the 1990s in the UK even had *negative* net debt/equity ratios; that is, deposits of cash exceeded gross debt, making net debt negative.[173]

6.10.1 Optimal Capital Structure

Where firms have access to various financing, is there an optimal mix between debt and equity?[174] As mentioned at the beginning of this chapter, the Modigliani–Miller Capital Structure Theorem (MM), a mainstay of finance theory, postulates that the capital structure is irrelevant to the firm's value and operations. Such value depends only on the asset side of the balance sheet and the PV of the firm's cash flow stream and not on how the assets have been financed, which therefore makes no difference.

The MM theorem assumes that markets operate efficiently and that there is no asymmetric information, no taxes, no transaction, and no bankruptcy costs. This is a simplified textbook view of reality, adopted for analytical purposes. In practice, companies need to organize their funding priorities according to several operational principles.

6.10.1.1 The Pecking Order Approach to Determining the Capital Structure

The pecking order (or ladder) approach is not a theoretically well-defined model but a practical method based on the reality of availability.[175] Basically, a firm would use the cheapest method of financing first, up to the available limit, and then move to the next available funding option by ascending order of cost. According to one survey, seven out of ten CFOs prefer the pecking order method as a way to proceed.[176]

171 Damodaran, Aswath. "Finding the Right Financing Mix: The Capital Structure Decision." New York University Stern School of Business. July 1, 2004. ► http://pages.stern.nyu.edu/~adamodar/pdfiles/cfovhds/capstr.pdf.

172 West, Rob. "Competing for Capital: The Diffusion of Bilateral Investment Treaties, 1960-2000." Working Paper, University of Illinois. February 28, 2000.

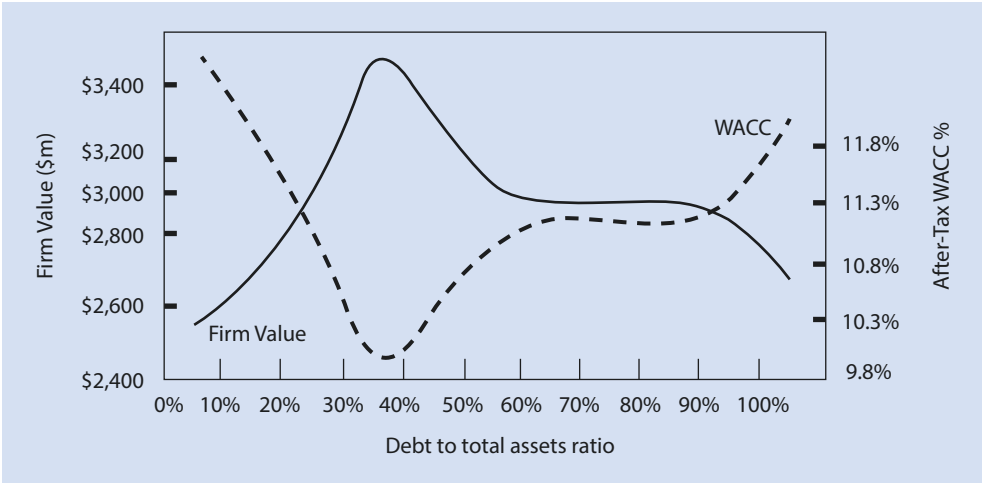
173 Brierley, P.G., and A. Kearns. "The Financing Patterns of New and Old Economy Firms in UK." *Bank of England.* June 22, 2001. Last accessed May 19, 2017. ► https://www.bis.org/publ/cgfs19boe1.pdf.

174 Lewellen, Katherina. "Capital Structure, cont." *MIT*. July 1, 2004. Last accessed July 19, 2012. ► http://ocw.mit.edu/NR/rdonlyres/Sloan-School-of-Management/15-402Finance-Theory-IISpring2003/LectureNotes.

175 Shyam-Sunder, Lakshmi and Stewart C. Myers. "Testing static tradeoff against pecking order models of capital structure." *Journal of Financial Economics* 51 (1999): 219-244.

176 Asaf, Samir. *Executive Corporate Finance*. (Harlow Essex: FT Prentice Hall, 2004), 50-70.

Fig. 6.2 The optimal leverage ratio



The pecking order of financing is typically as follows, by rank of priority:

- internal funding (retained earnings)
- debt
- equity.

Within each of these three classes, there would be an ordering of sub-categories—many of them discussed above—based on their after-tax cost and their availability. The pecking-order approach is practical. Furthermore, it can be used within a desired debt–capital ratio by applying two pecking orders, one for debt and one for equity, within their respective optimal allocations. The shortcomings are several. A debt option might be cheap but still requires liquidity for repayment, otherwise it could put the company into insolvency. Or the expectation of dropping interest rates and/or rising stock market prices might favor short term debt as a placeholder. Therefore, by picking the equity option, a company might imply that it believes its shares are overvalued, or that it has maxed out on its ability to borrow. As a result of these signals, stock prices then might then drop, which is an added cost to equity financing.[177]

6.10.1.2 Optimizing Company Value

Perhaps the major problem with the MM analysis and of the pecking order approach is that if a company issues more debt the equity gets riskier, and thus requires a higher risk-adjusted rate of return. Beyond some point more debt will reduce the value of the firm.[178] Therefore, when a corporation uses financial leverage (i.e. debt) properly, it can increase its overall market value. Introducing financial leverage into an unleveraged corporate capital structure will initially raise the market value (and then lower it) owing to the change in overall returns to debt and equity holders. The company has a sweet spot of leverage to lower its cost of capital while simultaneously increasing its market value and share value. If the company increases leverage beyond this sweet spot it will increase risk and force investors and lenders to compensate by raising the interest they charge the company, and raise its capital cost, lowering its share value and thus the firm's value.[179, 180]

In Fig. 6.2 we can see how a firm's optimal debt leverage is a tradeoff between the costs and benefits of borrowing.[181] We can see how the firm's overall value, represented by the curved solid line, begins at the level of the value of an unlevered firm. This is the firm's value when it is using only equity to finance itself. As the graph curves upward, we can see the benefits from the lower cost of debt relative to equity and from the interest tax deductibility. This tax benefit is a by-product of using debt (whose interest cost is deductible), and it increases with additional leverage. These factors initially raise the firm's value because they lower the firm's overall cost of capital. But if a company were to keep ramping up leverage (debt) too much, it would eventually suffer value erosion. As risk increases, the interest rate it must pay rises. The overall cost of capital rises, the firm's value declines, and share prices fall. At the top of the curve firm value is maximized. That point identifies the optimal leverage.[182] In the graph, the optimal financial leverage ratio is 34%. If the firm operated at this ratio it would be maximizing the total benefit from its current overall value.

By this approach, the firm should stay at (or at least near) the optimal point in terms of capital structure. It should issue equity or cut back debt when leverage rises above the target level. It should buy back stock or issue debt when leverage falls below the target capital structure level.[183]

177 Shyam-Sunder, Lakshmi and Stewart C. Myers. "Testing static tradeoff against pecking order models of capital structure." *Journal of Financial Economics* 51 (1999): 219-244.

178 Smith, Dr. J Herbert. "Analysis of Financial Statements." *University of New Brunswick*. Last accessed July 19, 2012. ► http://www.unb.ca/web/jhsc/TME_courses/tme3013/ratios/index.htm.

179 Asaf, Samir. *Executive Corporate Finance*. Harlow Essex: FT Prentice Hall, 2004.

180 Brealey, Richard A., and Stewart C. Myers. *Principles of Corporate Finance*. New York: The McGraw-Hill Companies, Inc., 2003

181 Myers, Stewart C. "The Capital Structure Puzzle." *The Journal of Finance* 39, no. 3 (July, 1984): 575-592.

182 Shyam-Sunder, Lakshmi and Stewart C. Myers. "Testing static tradeoff against pecking order models of capital structure." *Journal of Financial Economics* 51 (1999): 219-244.

183 Lewellen, Katherina. "Capital Structure, cont." *MIT*. July 1, 2004. Last accessed July 19, 2012. ► http://ocw.mit.edu/NR/rdonlyres/Sloan-School-of-Management/15-402Finance-Theory-IISpring2003/LectureNotes.

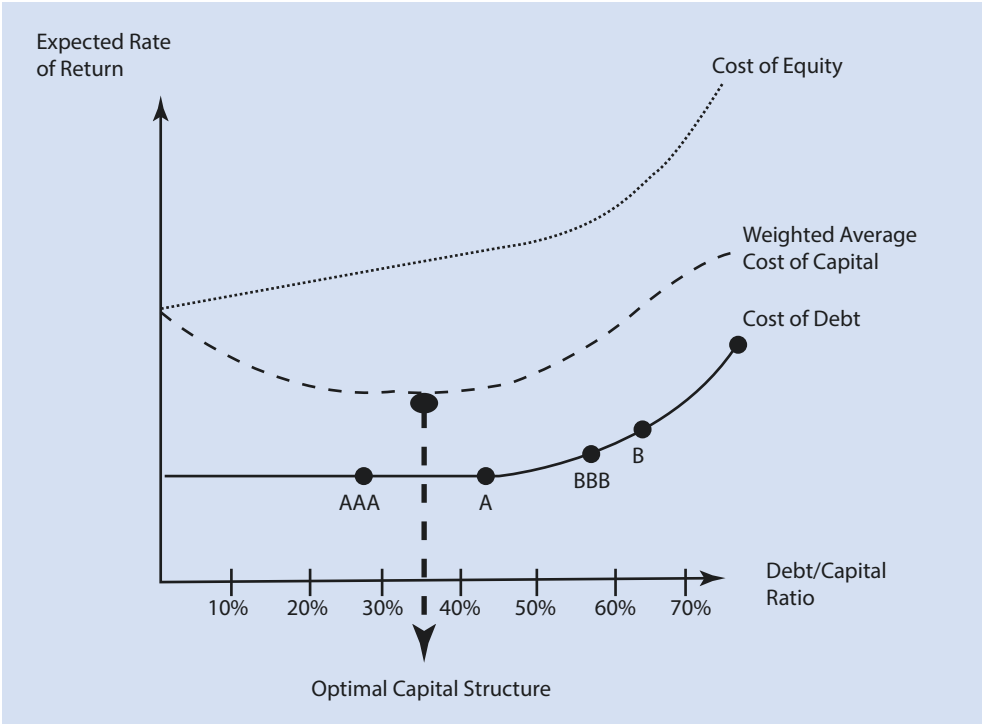


Fig. 6.3 Cost of capital and optimal capital structure

There are various ways to find the sweet spot. One method is to minimize the cost of capital. A firm would seek to operate at the lowest cost of capital across its several financial sources—the firm's weighted average cost of capital (WACC).[184] The WACC is a calculation of a company's cost of capital where each source of capital is weighted in proportion to the amount of capital that it supplies to a company. A low WACC indicates that a corporation obtains capital inexpensively. Businesses will discount their cash flows at the WACC rate to determine the NPV of a project or of the firm.

$$\text{NPV} = \text{PV of cash flows, discounted at WACC}$$

A company's WACC as a function of two primary components: (1) the cost of the equity capital (K_e)and debt capital (K_d) that a firm employs as well as (2) the mix of equity capital and debt capital used to finance a firm's operations. The cost of debt (K_d) is given as the cost after tax deductions are made on the debt interest payments.

$$\text{WACC} = \left(W_e \times K_e\right) + \left(W_d \times K_d\right)\left(1 - t\right)$$

W_e and W_d are the proportions of equity and debt capital, respectively used to fund the firm's operations; t is the tax rate. As an example of the application, assume a company with \$100 million debt, \$50 million market value of equity, 10% cost of debt, 20% cost of capital, 35% tax. This information yields:

$$\text{Debt to Capital Ratio} = \$100 / \$150 = 66\%$$

$$\text{Equity to Capital Ratio} = \$50 / \$150 = 33\%$$

and

$$\text{WACC} = \left(.33 \times .20\right) + \left(.66 \times .10\left[1 - .35\right]\right) = 11\%$$

The relationship between the amount of leverage (debt to capital) and the expected rate of return by investors and lenders is represented in Fig. 6.3.[185] The top line represents the cost of equity and the bottom curved line represents the cost of debt. The middle line is the weighted blend of both these financing costs, the WACC. During the initial leverage (debt/capital) ramping up the expected rate of return on debt stays constant, the expected rate of return on equity increases very slightly, and the WACC falls because of the tax advantages of debt offset the slight increase in expected return on equity. But as the leverage (debt/capital) increases (past 36% on the graph) things change. Both investors in debt and equity begin to demand higher returns for each incremental increase in leverage, because the firm and its debt become riskier. The WACC begins to rise accordingly. Thus, as a firm increases debt relative to equity, the average cost of capital initially decreases because debt is cheaper. However, rising debt will eventually lead to higher interest rates charged and to a lower stock price. The lowest WACC is at a 0.36 debt

184 Fairchild, Richard. "An Investigation of the Determinants of BT's Debt Levels from 1998-2002: What does it tell us about the Optimal Capital Structure?" Working Paper, University of Bath School of Management, February 2003. Last accessed May 19, 2017. ► http://www.bath.ac.uk/management/research/pdf/2003-03.pdf.

185 Based on Morris, Matthew R. "Creating Shareholder Value Through Capital Structure Optimization." *Value Incorporated*, 2001.

to capital ratio. Since the firm value is the firm's income stream discounted by the WACC, with identical income streams the firm's value is highest when the discounting by the WACC is lowest.

An optimal debt structure is not the only factor that determines a corporation's value, but it does influence it greatly, within equal performance. An example is British Telecom (BT). As mentioned before, through 1998 and 2001, BT increased its debt level rapidly from £4.8 billion to £31 billion, primarily to finance acquisitions. As a result of this sixtupling of debt, BT's credit rating was downgraded from AA+ to A, a drop of four notches. This caused a drastic decrease of 65% in BT's share price. Analysts and investors then pressured BT to reduce its debt in 2002 from £31 billion to £18.4 billion.[186]

6.10.1.3 Case Conclusion

The Optimal Capital Structure: TWIT Versus SNIT

We are now able to put together the various funding options that were previously discussed (▪ Table 6.6).

TWIT Funding

We begin with the pecking order approach, and then integrate it into the approach of maximizing company value.

In ▪ Fig. 6.4, the horizontal bars show the types and amounts of debt funding available to TWIT, as we have found in our analyses, together with their interest costs after-tax deductibility of 30%.[187] The horizontal bars start on the bottom left with the least expensive after-tax option (CP at 2.24% after-tax for $300 million) to the top right, the most expensive option (securitization $235 million at 10.5%).[188] A pecking-order financing based solely on debt would then start with the lowest cost debt instrument and add to it sequentially until the target funding—$1000 million, the dotted line, —is reached. This happens in the horizontal mid-point range, with part of the funding by corporate bonds (at 4.83%) and the rest by the cheaper debt options.

The weighted average interest cost for TWIT at each debt funding level is shown by the broken line on ▪ Fig. 6.4. For example, for debt of $500 million we multiply the after-tax interest rates associated with $300 million of CP, $10 million of government financing, and $190 million of LOC financing by their proportions in the total and then add them all together.

$$(300/500\times 2.24)+(10/500\times 2.42)+(190/500\times 3.50)=2.72$$

However, this average interest rate, the broken line in ▪ Fig. 6.4, does not take into account the added default risk that occurs with each additional dollar of debt outstanding. As additional debt is substituted for equity and the risk of default increases, a company's debt rating drops, and the debt load premium rises. This premium[189] is based on the associated rating category[190] for that debt ratio.

The real weighted average interest cost (debt load premium added) is represented by the top (solid) line in ▪ Fig. 6.4, which adds debt load premiums to the baseline unlevered weighted average interest rates. The difference between both lines is not great because, as mentioned, it is the parent company Time Warner that would issue the debt securities, and its capital structure can handle the additional debt with a minimal change in default risk profile.[191]

The same depiction, this time for equity, is provided in ▪ Fig. 6.5. It shows the available types, costs and amounts of equity funding available to TWIT.[192] The least expensive equity source is at the bottom left and the most expensive at the top. Internal funding can be combined with other equity sources, but most other options have traditionally been mutually exclusive, such as limited partnership or secondary stock offering, and these alternative options are therefore stacked on top of each other in ▪ Fig. 6.5.

We observe in ▪ Fig. 6.5 that if the entire $1 billion were financed by equity, it would be composed of $235 million in internal funding (at 8.9%) and the remainder in secondary public equity (at $13.32%).

We also observe that debt is cheaper than equity, which would suggest that TWIT should be financed entirely by debt. This, however, would ignore the debt-to-capital ratio. As Times Warner adds debt, this increased leverage raises riskiness and thus the cost of debt, and it reduces share price. An additional component to consider therefore is the debt-to-capital ratio. Before funding TWIT, Time Warner had a baseline debt-to-capital (debt/debt + equity) percentage of 33.3% ($16.5 billion in debt and $33 billion in equity, for $49.5 billion in total capital.[193]) A lower debt-to-capital percentage usually leads to lower debt service (interest and principal payments on debt) amount and thus to better company default risk ratings.

If the entire $1 billion were raised by equity, the debt-to-capital percentage would be 32.7%. Conversely, if TWIT's entire $1 billion were raised by debt, Time Warner's debt-to-capital percentage would rise only slightly, to 34.7%.

A higher debt load therefore requires a risk premium. The unbroken (upper) line in ▪ Fig. 6.5 displays the real cost of equity issued through Time Warner with the debt load premium included. As with debt in ▪ Fig. 6.4, the difference between both plotted lines in ▪ Fig. 6.5 is not large because Time Warner's size and financial flexibility allows it to manage the additional debt and equity burden with little change in the company's default risk profile.

The next graph, ▪ Fig. 6.6, combines both TWIT's real (levered) debt cost and

186 Fairchild, Richard. "An Investigation of the Determinants of BT's Debt Levels from 1998-2002: What does it tell us about the Optimal Capital Structure?" Working Paper, University of Bath School of Management, February 2003. Last accessed May 19, 2017. ► http://www.bath.ac.uk/management/research/pdf/2003-03.pdf.

187 They are the cost to the parent company Time Warner that assumes the debt for the subsidiary TWIT.

188 In the order of after-tax expense, the options are:
- commercial paper, ($300 million at 2.24%);
- governmental grants ($10 million at 2.42%);
- line of credit ($250 million at 3.5%);
- convertible debt ($333 million at 4.13%);
- corporate bonds ($333 million at 4.83%);
- vendor financial ($250 million at 4.9%);
- vendor lease ($150 million at 5.6%);
- securitization ($236 million at 10.5%).

189 Asaf, Samir. *Executive Corporate Finance*. (Harlow Essex: FT Prentice Hall, 2004), 50-70.

190 Damodaran, Aswath. *Applied Corporate Finance*. Hoboken, NJ: John Wiley & Sons, 2011.

191 The company is able to add $1 billion in debt without much changing its default risk profile. The BBB rating is maintained on the horizontal axis throughout the TWIT analysis of Chart A.

192 All equity is issued through the parent Time Warner, except the IPO financing option, which would be used only if TWIT were to be spun off from the parent.

193 Thomson One Banker. "Time Warner Inc." September 23, 2011.

real (levered) equity cost to calculate the overall WACC for each funding mix of debt and capital.

The top line in Fig. 6.6 shows the real cost of equity and the bottom line plots the real cost of debt (these lines are taken from the prior Figs. 6.4 and 6.5). The third line (middle line) is the combined WACC for TWIT, calculated from the weighted cost of each debt and equity share. For example, for a capital structure made up of 50% debt and 50% equity we would use the following calculation:

$$(0.5 \times 11.6\%) + (0.5 \times 2.93\%) = 7.27\%$$

As noted, the size of Time Warner's balance sheet allows it to borrow the full $1 billion in any debt-to-capital composition and not raise its debt risk by much. The WACC in Fig. 6.6 keeps dropping as the proportion of debt increases, because TWIT's debt, at this stage, is much cheaper than equity (this would change if TWIT would require, say, $20 billion in funding). The lowest weighted average cost of capital (Overall WACC) is 3.72%, and this occurs when TWIT is financed using 100% debt and 0% equity. This would raise its debt-to-capital ratio slightly to 34.7%, roughly similar to the current 33.3% level. If Time Warner decides that it cannot compromise on its 33.3% debt-to-capital percentage, because otherwise its entire cost of debt would rise, it must select a capital structure for the new funding with 33.3% debt and 66.6% equity. It would raise $333 from debt, and would determine, from Figs. 6.4 and 6.5, that debt composition should be $300 million in CP, $10 million in a government-subsidized grant, and the remainder, $33 million, in a bank-provided LOC. Equity would cover the other $666 million, with internal funding accounting for $235 million and secondary public stock offering the other $431 million.

SNIT Funding

We can conduct a similar analysis for SNIT. These are SNIT's options, as we have determined them in our preceding analyses.

Table 6.7 shows the available types, costs and amounts of debt funding available to SNIT. It has a stepped tiering starting on the bottom left from least expensive to the top right most expensive. All debt interest costs are post-tax.

SNIT's options are much more limited. Basically, it cannot obtain its entire $100 million target by debt. At most, it can reach using the "pecking order" steps, to about $33.5 million. The rest would be conceivably reachable by the placement of highly speculative junk bonds at 21%, and even this is unlikely.

Figure 6.7 shows SNIT's available debt funding options. The lines show the average interest costs, unlevered without the debt load premium (shown as the bottom broken line) and real debt interest cost with debt load premium included (top unbroken line). The real interest cost (top line) is calculated in by adding an estimated debt load premium for a company's credit rating as it changes from a BB to CC rating. With each rating downgrade a higher premium is added to the interest cost. As the debt-to-capital ratio increases, the relative spread between the two lines increases, reflecting the additional risk of taking on additional debt.

Similarly, Fig. 6.8 shows the available types, costs, and amounts of equity funding available to SNIT. Basically, it is internal (self-) funding at 15.02%, supplemented by limited partnership funds at 16.34%. VC might be an alternative. Here, too, the overall capital structure needs to be considered.

The plotted equity cost lines in the next figure do not show a large difference between the unlevered interest cost (lower line) and real interest rate (top line) is not large until the 50% debt-to-capital ratio is reached, and the two lines begin to deviate from each other at an increasing rate.

Figure 6.9 shows SNIT's real (risk premium included) cost for both debt and equity from the debt and equity graphs above, and combines them to find an overall WACC.

The overall WACC is plotted as the middle line in the Fig. 6.9. We can see that the lowest WACC occurs at the 30% SNIT debt-to-capital percentage interval, at 15.19%. This is SNIT's optimal capital structure, 30% debt, and 70% equity.

The Financial Funding Mix: TWIT

The cheapest method of financing TWIT is to fund itself entirely using the corporate parent's (Time Warner Media) debt. To fund itself in this manner, TWIT would use the available debt funding options summarized in Fig. 6.4. TWIT would choose the least expensive composition to fund itself. Based on the case discussion throughout this chapter, this funding would include, in ascending order of cost:

- $300 million in CP at 2.24% after-tax;
- $10 million in government loans at 2.42% after-tax;
- $250 million through its LOC (i.e. bank debt) at 3.50% after-tax;
- $333 million in convertible debt (i.e. bonds that convert into stock shares) at 4.13% after-tax;
- $107 million in corporate long-term debt at 4.83% after-tax.

The WACC for the funding would be 3.81%.

The Financial Funding Mix: SNIT

We found SNIT's optimal capital structure to be at the 30% debt to capital ratio. SNIT's funding would be composed of:

- $10 million in government loans, at 2.42% after-taxes;
- $15 million in vendor financing, at 8.75% after-taxes;
- $5 million in lease financing, at 10.50% after-taxes;
- $3 million of internal funding at 15.02%;
- $67 million limited partnership financing, at 16.34%.

SNIT would have a 13.25% cost of capital to raise $100 million. In comparison, TWIT has a 9.27% cost of capital to raise $1 billion, a cost advantage of 43% over SNIT. Much lower funding cost and its higher available volume provide significant advantage to TWIT. This kind of advantage can only be overcome by SNIT through much greater innovation and lower operating costs.

6.10.2 The Life-Cycle of Capital Structure

Each firm must decide its optimal capital structure based on its specific needs and the needs of its industry. These needs and availabilities change and depend on the stage of the firm's life cycle. A capital structure must be analyzed regularly and adapted for specific scenarios that the company finds itself in. It may also need to be tailored to the expectations of investors.

The financial needs of a firm are affected by cycles of the macro-economy, of the industry, and of the firm itself. The general business cycle affects investment needs, riskiness, costs, availability of funding, interest rates, and share prices.

The industry cycle is based on technology trends and market demand for new categories of services. Mobile telecommunications, smartphones, and apps are an example. The telecom company Verizon invested a very substantial

Table 6.6 TWIT funding options (summary)

Financing	Interest cost %	After tax cost (t = 30%)	Max funding ($ millions)	Assumed constraint
Internal funding (Time Warner retained earnings)	Prime + 3.45% ≈ 8.90%	≈ 8.90%	235	Limited to one quarterly dividend
Line of credit (LOC)	Prime – 0.50% ≈ 5.01%	≈ 3.50%	250	LOC allocated for other projects and operations, 10% available for TWIT
Commercial paper (short-term debt)	Prime – 2.25% ≈ 3.20%	≈ 2.24%	300	Must be backed by Time Warner; must match short-term needs
Long-term debt (corporate bonds)	Prime + 3.45% ≈ 6.90%	≈ 4.83%	333	Limited to 33.3% of borrowing owing to debt/cap
Convertible debt (hybrid debt)	Prime + 0.45% ≈ 5.90%	≈ 4.13%	333	Limited to 33.3% of borrowing owing to debt/cap
Securitization	Prime + 1.25% ≈ 15.00%	≈ 10.50%	235	Cost limit of one quarterly dividend
Vendor financing	Prime + 1.55% ≈ 7.00%	≈ 4.90%	250	Only for equipment, hardware and upgrades
Lease financing	Prime + 2.55% ≈ 8.00%	≈ 5.60%	150	Only for equipment, hardware, and upgrades
Government financing	Prime – 2.0% ≈ 3.45%	≈ 2.42%	10	Ceiling limit of $10 million
Limited partnership	Prime + 10.89% ≈ 16.34%	≈ 16.34%	800	Limited to 80% of funding
PE (private placement)	Prime + 11.55% ≈ 17.00%	≈ 17.00%	666	Limited to 33.3% of borrowing owing to debt/cap
Venture capital	Prime + 15.55% ≈ 20.00%	≈ 20.00%	100	VC deal ceiling of $100 million
Public equity (IPO)	Prime + 10.57% ≈ 16.02%	≈ 16.02%	1,000	Full $1 billion limit
Public equity (SEO)	Prime + 7.87% ≈ 13.32%	≈ 13.32%	1,000	Full $1 billion limit

"Prime" = five-year average of the prime rate (5.45%)

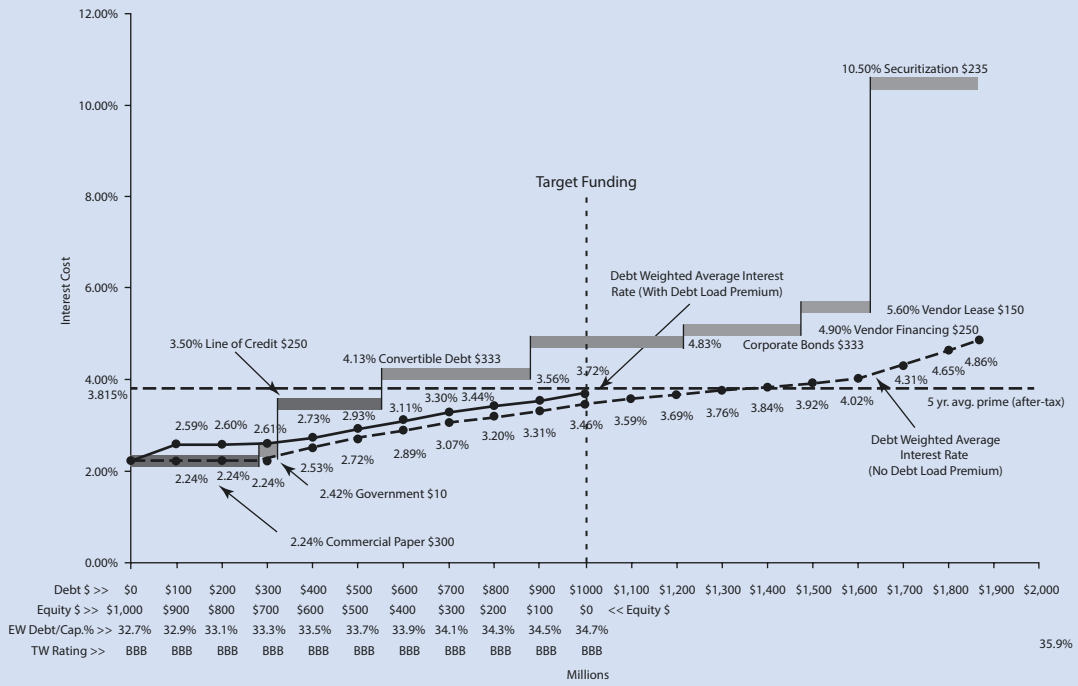


Fig. 6.4 TWIT debt funding options

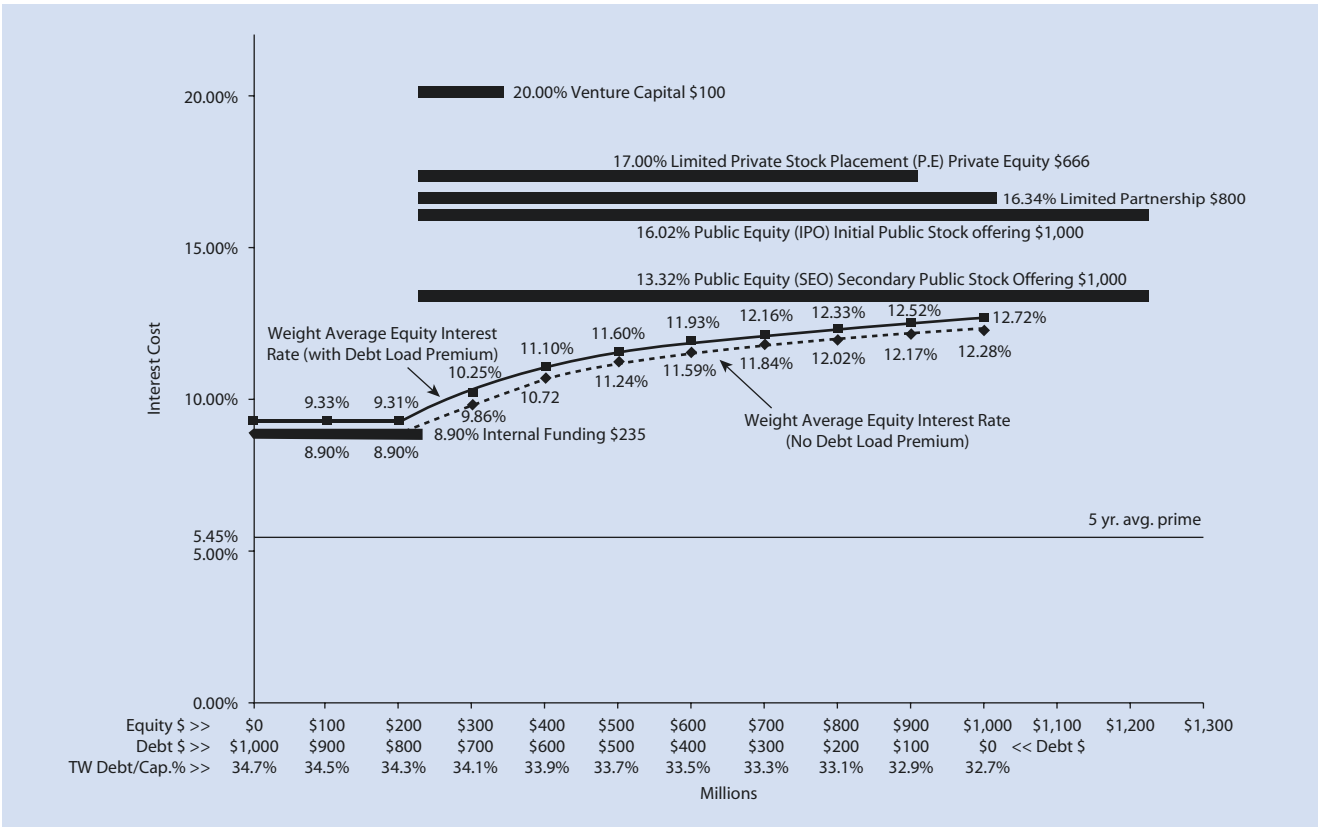


Fig. 6.5 TWIT equity funding options

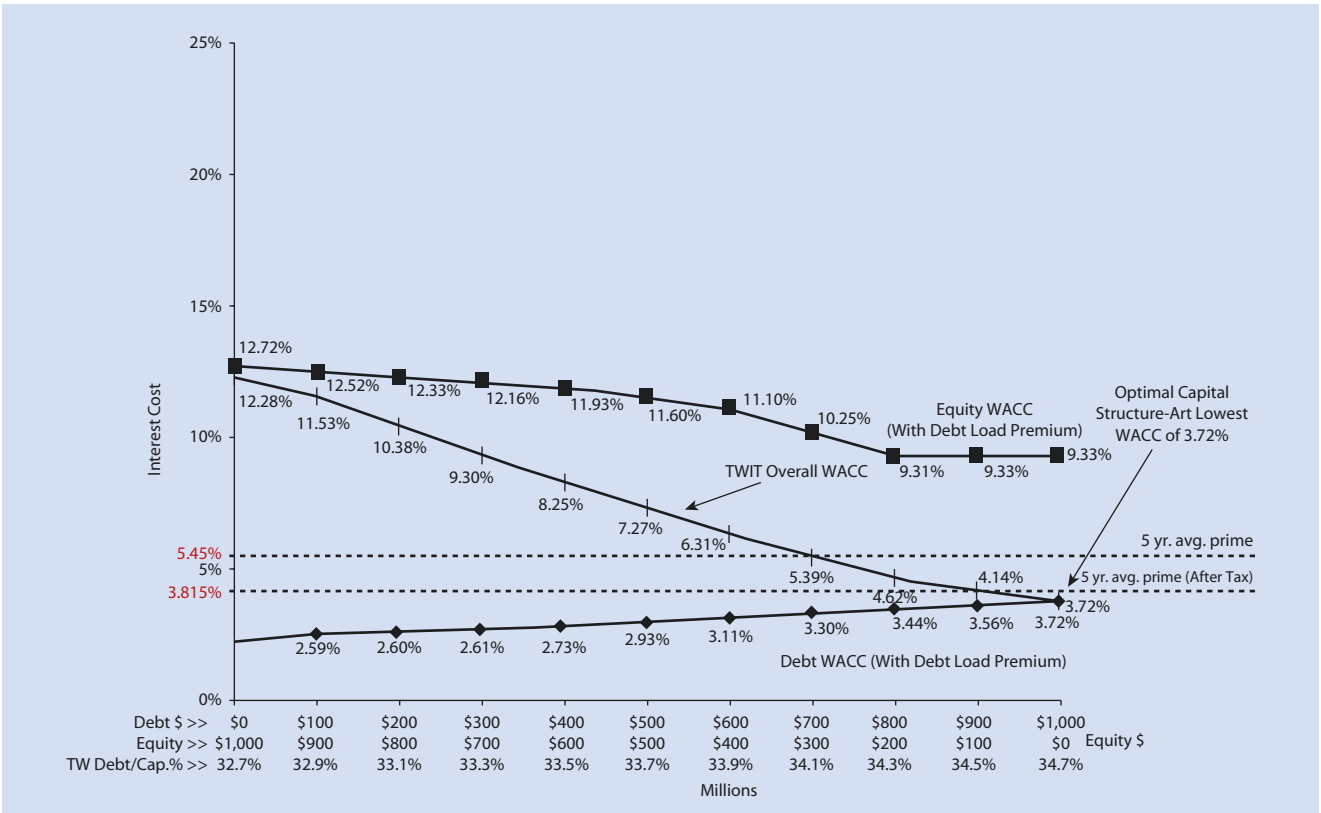


Fig. 6.6 All TWIT funding options—debt and equity

Table 6.7 SNIT Funding options (summary)

Financing	Interest cost % (est.)	After-tax cost $t = 30\%$	Max funding ($ millions)	Assumed constraint
Internal funding (founders, family and friends)	Prime + 9.57% ≈ 15.02%	≈ 15.02%	20.0	Amount of capital is limited to investment by founders, family, and friends
Line of credit (LOC)	Prime + 9.55% ≈ 15.00%	≈ 10.50%	1.0	Based on and limited by founder's personal credit
Commercial paper (short-term debt)	N/A			Unavailable, SNIT needs to get a guarantee or sponsor
Long-term debt (private placement non- market debt securities)	Prime + 24.55% ≈ 30.00%	≈ 21.00%	75.0	Private placement—liquidity risk—no secondary market
Convertible debt (hybrid debt)	N/A			Unavailable to SNIT—no credit rating or stock
Securitization	N/A			Unavailable to SNIT—owing to lack of cash-generating assets and revenues
Vendor financing	Prime + 4.55% ≈ 12.50%	≈ 8.75%	15.0	For equipment only
Lease financing	Prime + 11.55% ≈ 15.00%	≈ 10.50%	7.5	For equipment only
Government financing (grant/ loan)	Prime – 2.0% ≈ 3.45%	≈ 2.42%	10.0	Ceiling limit of $10 million on government financing
Limited partnership	Prime + 10.89% ≈ 16.34%	≈ 16.34%	80.0	Limited to 80% of funding
Private equity (private placement)	N/A			SNIT is unable to find buyers for its unregistered securities
Venture capital	Prime + 37.55% ≈ 43.00%	≈ 43.00%	5.0	Equity ownership investment
Public equity (IPO)	N/A			Unavailable to SNIT—owing to lack of operating history
Public equity (SEO)	N/A			Unavailable to SNIT—owing to lack of any existing equity

"Prime" = five-year average of the prime rate (5.45%)

$30 billion from 2004 to 2007 in fiber optic lines. After the build-out of the desired fiber footprint, the company's investment needs in fiber infrastructure declined considerably, to less than $1 billion per year in 2015.[194] On the other hand, Verizon's investment in wireless infrastructure, including spectrum license acquisitions, rose from $5.6 billion in 2004 to $11.7 billion in 2015.[195]

The third cycle is the company's own progression. It typically consists of four phases: start up, growth phase, maturity, and decline. During the start-up phase there is little debt. There is plenty of risk, little taxable income to make the tax deductibility useful, and lenders are cautious. But in the growth phase, debt increases in the capital structure. During the maturity phase the company will start to distribute higher dividends to shareholders rather than invest that money, and will rely less on equity funding because debt will be inexpensive since the company is a good credit risk. In the decline phase of the company, internal financing becomes scarcer and equity financing becomes costlier, but the firm's asset base permits an expansion of debt, though under less favorable conditions than before.

194 Brodkin, Jon. "Verizon nears "the end" of FiOS builds." *Ars Technica*. January 23, 2015. Last accessed May 19, 2017. ► http://arstechnica.com/business/2015/01/verizon-nears-the-end-of-fios-builds/.

195 Baburajan, K. "Verizon lowers telecom network Capex to $17.7 bn in 2016." *Telecomlead*. January 21, 2016. Last accessed May 19, 2017. ► http://www.telecomlead.com/4g-lte/verizon-lowers-telecom-network-capex-17-7-bn-2016-66805.

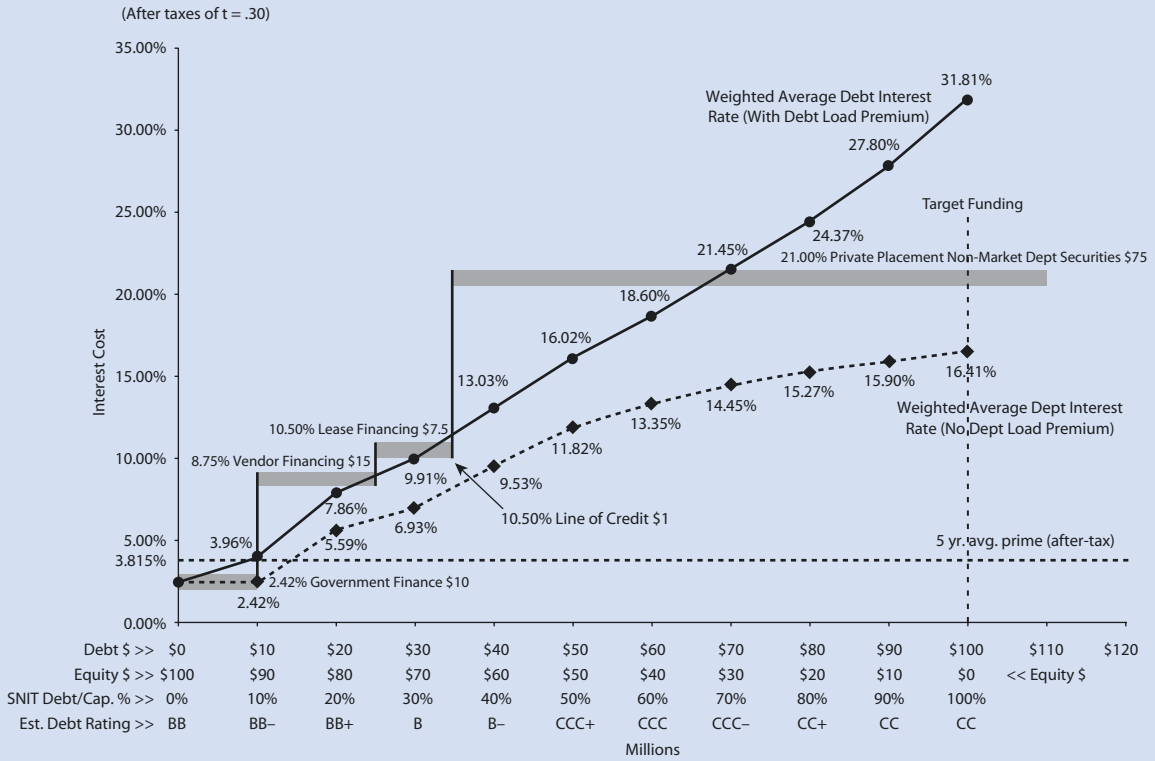


Fig. 6.7 SNIT debt funding options

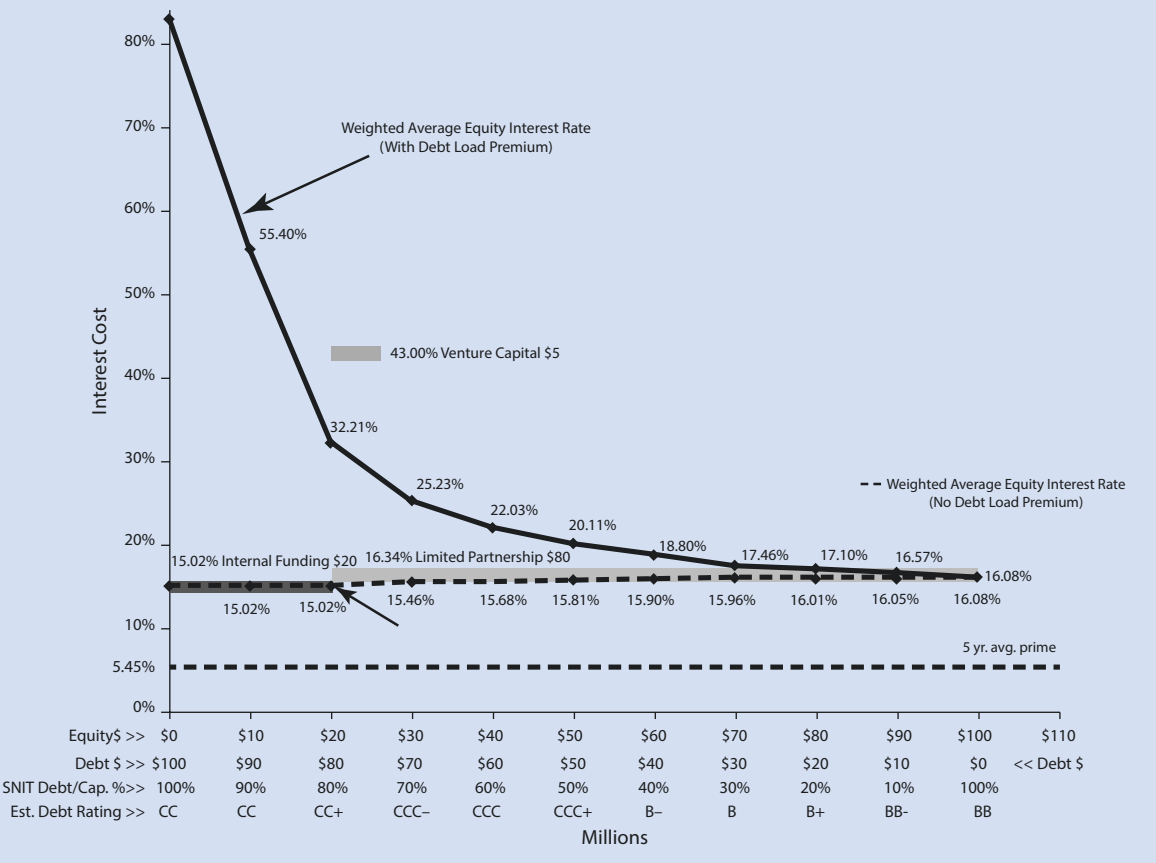


Fig. 6.8 SNIT equity funding options

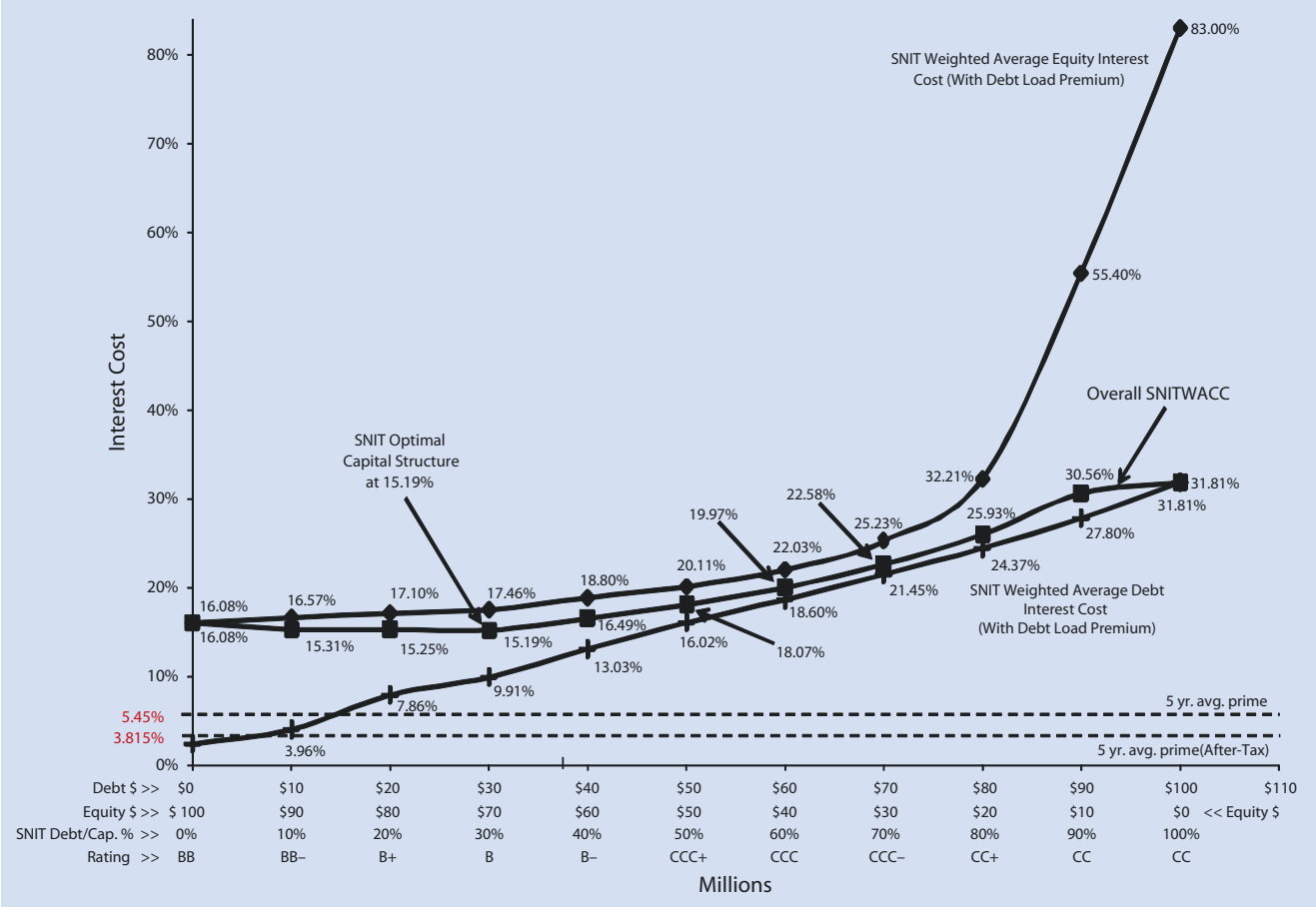


Fig. 6.9 All SNIT funding options—debt and equity

The main sources of capital also follow the pattern of the company's life cycle. In Fig. 6.10,[196] funding sources are plotted horizontally, representing the stage of company maturity. The vertical axis shows the degree of risk an investor faces.[197]

In the initial phases, angel investors and personal acquaintances both take a great deal of risk investing in the business as very little is known about it. When the business slightly matures, venture capitalists may be available. In the growth phase, with a longer and stronger track record, banks and other financial institutions will provide debt financing. These investors also usually have a larger investment capital available. As the business keeps growing, an IPO may be issued that opens up equity funding. Together with higher quality commercial bank debt, these are the mainstays for the mature company. As its revenues grow, the self-financing component rises.[198] In the decline phase, the asset base permits funding through debt backed by collateral, and by a selling off of assets.

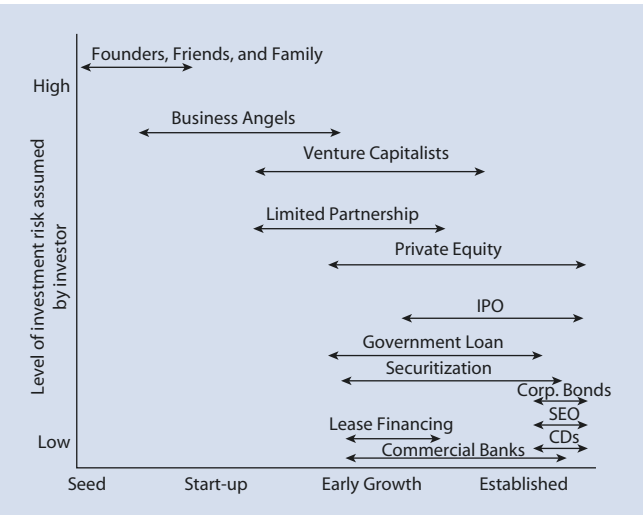


Fig. 6.10 Funding options over the life cycle of a company

6.11 Outlook

As the examples of the Hollywood film industry and of the Silicon Valley technology start-ups demonstrate, financing techniques and practices for traditional and new media and information sector industries are a major factor for their

196 Partly based on Kelly, Peter. "Finance and Venture Capital Markets." In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen and Antti Ainamo. (New York: Springer, 2003), 211-234.

197 Using and supplementing Kelly, Peter. "Finance and Venture Capital Markets." In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen and Antti Ainamo. (New York: Springer, 2003), 211-234.

198 Kelly, Peter. "Finance and Venture Capital Markets." In *Handbook of Product Service Development Communication and Information Technology*. Eds. Timo Korhonen and Antti Ainamo. (New York: Springer, 2003), 211-234.

health. Good ideas, creative concepts, R&D, and personal energy are important, but they will usually go nowhere without funding. Creativity and innovation require a financial base.

We have seen how these industries show a rising demand for financing. This is due to an increasing production of content, the growing complexity of electronic distribution networks, and greater faster R&D cycles. Such financing is inherently risky.

The financing of media and information activities is therefore becoming an ever more central function. It requires effective financial understanding inside media and technology companies; and it requires financial institutions and business practices to channel funds from investors to firms and projects, and to provide a screening and monitoring of projects.

Navigating financing techniques, flows, and institutions is therefore a major factor for the strength of media activities and tech ventures. With an effective understanding of the system and its opportunities and pitfalls, a financial manager can make an important contribution to innovation and culture.

6.12 Review Materials

Issues Covered

We have covered the following issues in this chapter:

- Why capital investments in media and communications are high.
- What different funding sources are available to established companies and start-ups.
- What the pros and cons of debt financing are.
- What the difference between short- and long-term financing is.
- What different types of debt sources are available.
- What the various bond ratings mean.
- What the impact of vendor financing and PFD deals is.
- How negative pick up deals work.
- Why many projects use lease financing.
- What the impact of government financing is.
- What the impact of debt financing on content is.
- How risk reduction strategies work.
- How PE and VC work.
- How to set up limited partnerships.
- What the requirements for IPOs are.
- What the opportunities and limitations of PE and crowdfunding are.
- What difference individual and institutional ownership makes.
- How a company's optimal capital structure can be determined.
- What the drivers of internal financing are.
- When to use gap financing, mezzanine financing, and securitization.
- Why junk bonds are issued and purchased.
- Why lease financing is often used.
- What the extent and trends of insider ownership are.

Tools Covered

We used these tools to address financing issues:

- The Miller-Modigliani theory of the irrelevance of funding.
- Capital budgeting.
- Cost of internal funding.
- Capital Asset Pricing Management (CAPM).
- Portfolio diversification and hedging.
- Net Present Value (NPV) and discounted cash flow.
- Internal Rate of Return (IRR).
- Duration matching.
- Weighted Average Cost of Capital (WACC).
- Financial funding mix.
- Pecking order approach.
- Debt to capital and equity ratio.
- Life cycle of financing.
- Optimal capital structure.

6.12.1 Questions for Discussion

1. What are the advantages and disadvantages of debt for an internet company?
2. What are the advantages and disadvantages of equity for a media company? When should a firm choose equity over debt, and debt over equity?
3. What role do institutional investors play in media companies? What accounts for an increasing role?
4. How does governmental funding of media vary across the world countries? Discuss the USA, EU, and Asian tigers.
5. What are the advantages and disadvantages of a digital company going public, not only in relation to its management but also its investors? Discuss the impact of IPOs on media content and conduct.
6. How does accessibility to capital vary across the media firm's life cycle?
7. Discuss the pros and cons of financing and distributing a film independently versus through a studio distributor.

8. Discuss the effect of availability of securitization finance, vendor/buyer finance, and lease financing to different types of media firms.

9. Discuss the effects of different kinds of ownership on the way a media company is run. In what ownership model does management have the most autonomy?

10. Discuss the advantages and disadvantages of internal funding?

11. What aspects of finance in the media industry are different from other industries?

6.12.2 Quiz

1. If a movie studio had the option to purchase the rights to make the Calvin & Hobbes comic strip into a movie, in finance terms this would be referred to as:
   A. Call option;
   B. Put option;
   C. Exclusive option;
   D. Distribution option.

2. If a radio station sells its transmitter tower to a finance company and then leases it for its use, this is called a:
   A. Capital lease;
   B. Operating lease;
   C. Lease-back;
   D. Secondary lease.

3. Which is not a characteristic of the media industry that makes financing difficult?
   A. Periods of revenue from products are short;
   B. Period between investment outlay and revenue realization is short;
   C. Intangible nature of product makes it difficult to charge price;
   D. Investments in pioneering technology are uncertain.

4. Which is not a disadvantage of the Payback Period technique?
   A. Ignores time value of money;
   B. Ignores risk;
   C. Says nothing of profitability after payback period;
   D. Is complicated, and often impossible, to calculate.

5. Duration matching is:
   A. Conversion of one long-term capital structure into another as the riskiness of an investment decreases with time;
   B. Aligning the NPV of an investment with the cost of capital to decide on an investment project;
   C. Arbitraging debt as the rate of return on a project increases with time;
   D. Matching amount and timing of debt maturity to the projected dates of positive future cash flows.

6. Which is not a characteristic of a junk bond?
   A. Usually offered by a company that has debt of > 4x EBITDA;
   B. Usually offered by a company that has a quick ratio > 1;
   C. Often issued by "fallen angel" companies;
   D. Has a default rate of 3–4%.

7. Which is not a characteristic of securitization?
   A. Allows borrowing against future royalties, not collateral assets;
   B. Bundles multiple media projects together, hedging risks of individual projects;
   C. Allows owner of firm to keep 100% of assets being financed;
   D. Reduces risk by effectively shortening term of debt.

8. What are the characteristics of a negative pick-up deal?
   A. By making distribution deal before production, gives crew and cast extra incentive to complete movie on time;
   B. Distributor must bear risk of film going over budget;
   C. Favors producers with a proven track record;
   D. Unsuccessful date;
   E. Does not require advanced financing;
   F. Both C and D.

9. Which one of the following is true about leasing as a form of financing?
   A. Reduces company's ability to borrow;
   B. Temporarily increases debt on balance sheet;
   C. Accounts for more than half of all annual investment in equipment;
   D. Allows arbitrage of credit risk.

10. Which is not true of preferred stock?
   A. Carries more voter rights than regular stock;
   B. Gets priority in receiving dividends;
   C. Gets priority in assets in event of liquidation;
   D. Dividends usually paid at fixed rate.

11. The most common and least expensive form of film financing is:
   A. Equity;
   B. Senior term debt;
   C. Subordinated debt;
   D. Revolving LOC.

12. The largest source of equity for small firms is:
   A. Principal owner;
   B. Angel investors;
   C. VC;
   D. Publicly raised equity.

13. What strategy is followed most often in achieving an optimal capital structure?
    A. MM theory;
    B. Target capital structure;
    C. The pecking order of raising capital;
    D. No particular strategy comprises a majority of firms' strategies.

14. How do media companies often alter the pecking order?
    A. Resort to debt before equity;
    B. Rely more heavily on internal financing;
    C. Place equity before debt;
    D. They don't.

15. Which is not a risk reduction strategy for a media product?
    A. Diversify revenue streams;
    B. Lengthen term of debt to attract more investors to the higher interest rate;
    C. Shift risk onto investors with equity offering;
    D. Develop derivative financing options as hedging devices.

16. Mezzanine financing was developed to:
    A. Provide a stage of debt in between the revolving LOC and senior term debt;
    B. Offer a conservative arrangement with significant due diligence on part of the lender;
    C. Create a layer in the capital structure between senior term debt and equity;
    D. Provide an alternative to seed capital.

17. Which of the following simplification does the MM theorem make?
    A. Term of debt is irrelevant;
    B. PV of firm's cash flow is irrelevant;
    C. Value of firm depends only on capital structure;
    D. All the above.

18. What is not a practical reason to conduct a SPO?
    A. To take advantage of inflated share prices;
    B. To get more capital to invest in new technologies;
    C. To dilute firm control and prevent takeovers;
    D. To decrease ROE.

19. At what part of the firm life cycle is a firm most likely to use VC or angel finance?
    A. Start-up;
    B. Growth;
    C. Mature;
    D. Decline.

20. Which of the following is a limit on CP?
    A. Issuers can only offer CP in short terms, with a limit of 270 days;
    B. Issuers can only offer interest up to 5%;
    C. Issuers are required to have a AA+ credit rating;
    D. Issuers are prohibited from offering CP to individuals.

21. Which of the following is not a reason a company would issue public equity?
    A. Equity holders of the company need capital and their shares are not easily tradable in PE;
    B. The firm wants to be able to attract and retain managers that would only be attracted if they receive stock options and other incentives of being a publicly traded company;
    C. It is much cheaper for a company to issue an IPO than to borrow funds from a bank or attract money from venture capitalists;
    D. A wider pool of investors are attracted and the company can raise more money.

22. Which of the following statements about labor unions is incorrect?
    A. Strongly unionized industries experience great labor mobility;
    B. Unionization has a positive effect on compensation;
    C. Unions often upgrade the skills of their members;
    D. The membership of unions has declined as the industrial economy is transitioning to a services-based economy.

23. Why is there often such a strong unionization in media crafts and among media creatives?
    A. Oversupply;
    B. Money;
    C. Political leverage;
    D. Stress;
    E. Declining rate of newcomers;
    F. Need for respect.

24. Which of the following statements about motivation and needs is incorrect?
    A. Motivational attitudes follow a hierarchy of needs;
    B. Motivation depends on circumstance;
    C. Humans are social animals and strongly seek to belong to a community;
    D. Psychological needs precede safety needs.

25. Which of the following elements do not describe the internet culture?
    A. Clear lines of responsibility;
    B. Individualism;
    C. Rapid product cycles;
    D. Uncertainty;
    E. Entrepreneurialism.

Quiz Answers

1. A
2. C
3. B
4. D
5. D
6. B
7. D
8. C
9. D
10. A
11. D
12. A
13. C
14. C
15. B
16. C
17. A
18. D
19. A
20. A
21. C
22. A
23. E
24. D
25. A