Part 1

THE VALUE OF DEBT IN THE MANAGEMENT OF WEALTH

Ignorance is the curse of God; knowledge is the wing wherewith we fly to heaven.

—*William Shakespeare,* Henry VI, *Part 2*

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Chapter 1

Strategic Debt Philosophy: An Overview

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How This Book Can Add Value to Your Life

This book aims to bring forth a new vision of the value of debt in the management of individual and family wealth. On the one hand, virtually every company already looks at both sides of its balance sheet—assets and debts—and consciously strives to come up with an optimal debt ratio.[1] On the other hand, the vast majority of individuals, wealthy or not, *are either dramatically overleveraged (have too much debt) or, at the other extreme, are substantially underleveraged (have no debt at all).*[2] Those in this second camp typically hold the notion that debt is always bad, should almost always be avoided, and if taken on, should be paid off as soon as humanly possible.

There is a reason, however, why practically all companies acknowledge the value of debt and seek to have an optimal debt ratio in

place.[3] Simply put, by strategically taking on and managing debt, these companies realize that they can take advantage of what we'll call the *Indebted Strengths* that come along with that debt, which, as we'll describe shortly, include Increased Liquidity, Increased Flexibility, Increased Leverage, and Increased Survivability.

As it turns out, despite the general antidebt knee-jerk reaction that most people have, many wealthy individuals and families—from the moderately affluent to the ultra-affluent—can also make use of these Indebted Strengths to their own substantial long-term advantage. For starters—in later chapters I will get into the details on all of these and more—the strategic use of debt can help enable you and your family to do the following:

- Quickly come up with the funds needed to respond to natural disasters, health crises, or personal difficulties of nearly any kind.
- Generate tax-efficient income in retirement (and potentially access your money tax free).
- Purchase a second home in a much less expensive manner.
- Become progressively wealthier by "capturing the spread" between the cost of debt and the return on investment that you can likely generate through appropriate low-risk investing strategies.

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The Five Tenets (or Action Principles) of Strategic Debt Philosophy

There are five tenets—or action principles—that form the core of Strategic Debt Philosophy:

1. Adopt a Holistic—Not Atomistic—Approach
2. Explore Thinking and Acting Like a Company
3. Understand Limitations on Commonly Held Views of Personal Debt
4. Set Your Sights on an Optimal Personal Debt Ratio
5. Stay Open-Minded, Ask Questions, and Verify What Works

Each of the five action principles is expressed as a kind of injunction, starting with words like *adopt*, *explore*, and *understand*—words that

tell you to *do* something specific. This is done to let you know that while this may be a chapter on the *philosophy* of Strategic Debt, it is not meant to be a vague, head-in-the-clouds type of exercise. There is real work—internal thinking and questioning, consulting first with one's spouse and family members and then with one's professional advisors—that is absolutely necessary before going forward with any of the specific Strategic Debt Practices recommended in this book. Let's, then, now turn to the five tenets.

First Tenet: Adopt a Holistic (Comprehensive)—Not Atomistic—Approach

The first tenet of Strategic Debt Philosophy—and for that matter, the first tenet of all true wealth management philosophies—is to adopt a *holistic* approach. Merriam-Webster.com defines holistic as "Relating to or concerned with wholes or with complete systems rather than with the analysis of, treatment of, or dissection into parts." Similarly, TheFreeDictionary.com defines holistic as "Emphasizing the importance of the whole and the interdependence of its parts."

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For purposes of this book, the terms *holistic* and *comprehensive* will be treated as synonymous. A holistic wealth management approach, then, is one that goes far beyond the typical investment portfolio approach. Instead, it starts with the needs, goals, and dreams of an individual or family, then looks not only at their immediate financial situation but also the entirety of their wealth, and then takes into account everything from estate and retirement planning to taxes and insurance to end-of-life concerns (health care, residency, medical powers of attorney, etc.), and then, finally, methodically backs out cash-flow needs and projections.

What's important about a holistic approach is that it doesn't separate analysis and action into atomistic silos, where decisions on everything from buying a car to making long-term investments are made without taking into account the impacts and effects of that decision on the entirety of an individual's or family's wealth. A holistic approach does its best to take everything into account (as well as how everything interacts with everything else) and does so on many levels, from the most general to the most detailed. This often means

calling in experts—like high-level tax accountants, lawyers, insurance experts, and so on—to ensure that the best possible informed choices are made.

Adopting a holistic—and not atomistic or fragmented—approach to the value of debt has a number of consequences and implications. First, it brings to the table the critical importance of looking at both assets *and* debts, as we'll continue to explore throughout this chapter and the rest of this book. Second, without a holistic approach to wealth management that does indeed take into account both assets and debts, it is very difficult if not impossible to adopt and follow through on a holistic wealth management philosophy overall. That is, thoughtfully considering and factoring in everything that is known about debt, as well as what is known about assets, is essential to deriving maximum value from a comprehensive wealth management approach. Finally, a holistic approach to Strategic Debt Philosophy enables the exploration of the four Indebted Strengths that will be explored in detail in Chapter 2.

Second Tenet: Explore Thinking and Acting Like a Company

According to *Corporate Finance* (Ross, Westerfield, and Jaffe 2013),

> The goal of financial management is to make money or add value for the owners.[4]

A company is generally focused on gaining profits. That is, with the exception of nonprofit and not-for-profit companies, in the vast majority of cases the raison d'être—reason for being—of a company is to do well financially.[5] One would think, then, that when it comes to money, companies would tend to know what they are doing, which is one reason why it's important for wealthy individuals and families to explore thinking and acting the way that companies do.

One objection to thinking and acting like a company may be that, indeed, individuals and families are *not* companies, and their main purpose is *not* to gain profits. While that's quite true, it's also true that the exploration of thinking and acting like a company can have many

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benefits for individuals and families. Importantly, companies are often much more objective about financial-related matters than are individuals and families. So while their ultimate goals may differ, there is a lot of good learning that can come from exploring how companies think and what they do. Put differently, while you as an individual or family may not be primarily focused on making a profit, you nonetheless constitute an organized system of inputs and outputs that absolutely relies on having sufficient financial resources at the ready in order to get on with "the business of life."

A related factor is that companies have specialized financial leaders—chief financial officers, or CFOs—who are very clear about what does and doesn't work in the financial realm.[6] Much training, much education, and much knowledge about best practices reside within these individuals. If the vast majority of CFOs follow a particular practice, you can bet there's a good reason why.

A second objection to thinking and acting like a company can also be raised: In the pursuit of profits, companies may ultimately be much more willing to go bankrupt than you, as an individual or family, are willing to take a chance on. That is, for the most part, companies are so ultimately focused on making a profit that they engage in certain types of behaviors that you, as an individual or family, might not be willing to risk. This may or may not be true and it still doesn't mean that there aren't some huge lessons to be learned from at least the simple exploration of thinking and acting like a company.

Now that we've looked at the general reasons and objections as to why you could explore thinking and acting like a company, let's turn toward what it is, in particular, that sets companies apart in the realm of a holistic approach to Strategic Debt Philosophy. First, and most importantly, consider the following true proposition:

> Virtually every company of any size chooses a holistic approach to its balance sheet that embraces having both assets and debts.[7]

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In fact, as of this writing, there are four U.S. publicly traded companies that have a AAA rating (and even they use different forms of debt!).[8] This is not because there aren't many companies that are big enough and wealthy enough to pay off their debt entirely. (Could Coca-Cola, Walmart, or Procter & Gamble, for example, pay off all of their debt if they wanted to? Of course they could . . . but they don't, and they won't.) Instead, it's because *companies—which are all about doing well financially—consciously choose to have an optimal amount of debt.*

Yes, they are mindful of how much debt they have and how that debt is structured, but they take on debt and keep debt on their balance sheet *on purpose*. They do this so they can make use of what I will later define as their various Indebted Strengths, that is, to increase their liquidity, the amount of capital they have to work with, their long-term survivability, and so on. Companies, then, go out of their way not just to embrace debt where it is useful—for example, by issuing debt to buy back more of the company's publicly traded stock—but to determine and make use of their optimal debt ratio, that is, the optimal ratio between their assets and their debts.[9]

A great deal of research has gone into what the optimal debt ratio is for companies. As Eugene Brigham and Joel Houston explain in *Fundamentals of Financial Management* (2004), "The optimal capital structure must strike a balance between risk and return so as to maximize the firm's stock price." In just a little while, we'll discuss what average company debt ratios tend to actually look like in the real world.[10]

If you think about it, there is no question that shareholders of all companies want, need, and expect their companies to be successful. Proper design and implementation of the company's capital structure—and their overall debt philosophy—is a key part of these expectations. Interestingly, there are some theories out there that say companies should be almost 99 percent debt and 1 percent equity![11] Nobel Prizes have been awarded for the theories with respect to corporate finance and the optimal corporate capital structure. It is important that we are familiar with that work and consider its potential implications on our personal lives.

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> If you are a CFO of a public company and you haven't focused on your optimal debt ratio, do you know what you could be?
>
> That's right: You could be fired!

Consider, then, for a moment, what the role of the CFO in a company is. He or she starts by taking a *holistic* approach to the company's balance sheet. This begins by considering the corporation's total assets and the likelihood of the company encountering financial distress, along with what the fallout of that financial distress would be in terms of direct and indirect costs, the impact level of that financial distress, and its duration. (See Chapter 2 for a description of these terms and dynamics.)

With all this in mind, the CFO then determines the cash flow needs of the organization, and then looks at how much debt the company should have in terms of accessing the indebted strengths of Increased Liquidity, Flexibility, Leverage, and Survivability. Structuring the right amount of debt in the right way is critical, because if the company takes on too much risk in the form of increased debt then it could go bankrupt. If it doesn't take on enough of the right kind of debt then it may not be maximizing value and/or may increase the chances of either running into a liquidity crisis or being bought out by a hostile party. It's not surprising, then, that most companies have fairly constant debt ratios from year to year (as opposed to individuals, who tend to either have way too much debt or who want to pay off all of their debt as soon as they can).[12]

> If companies are willing, able, and deeply committed to embracing Strategic Debt Philosophy and Practice, then you, as a natural, real, live person or head of a family, should be willing to at least work with your advisors to explore the potential benefits—and risks—of these ideas as well.

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Companies and their CFOs, then, spend a lot of time—a whole lot of time in a holistic frame of mind—thinking all of this through. The big take-away here, then, is that there is an incredible disconnect between something that almost all companies do and something that far too few wealthy individuals and families do or are even willing to think about.

As previously stated, individuals clearly are not corporations. It would be extreme to say that they are the same, and it would be equally extreme to say that they have nothing in common. Our goal is to explore that white space in the middle.

SOMETHING ELSE THAT COMPANIES DO THAT YOU COULD, TOO

While we're going to school on financially motivated companies and how they think and act, we should point out that there is something else that companies do that you could probably do as well: Avoid amortization whenever possible.

One hundred percent of all debt issued by publicly traded American corporations is issued on an interest-only basis.[13]

If I buy a bond from GE or Coca-Cola (or any other large corporation), I will receive interest payments only (the bond coupon). The only time I will receive a principal payment will be at call date or maturity. Why is it that all corporate debt is interest only but many individuals amortize their cars, their houses, and so on?

As we will explore later, and as CFOs already know, having *any* required payments on your debt decreases your flexibility and ultimately increases your risk of and cost of financial distress.

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Third Tenet: Understand Limitations on Commonly Held Views of Personal Debt

How can we understand this "incredible disconnect" between how companies holistically think about their balance sheets and how the great majority of individuals tend to never think this way? It all begins with the perception that popular culture has of debt. For example, consider the words of the great William Shakespeare, who in his play *Hamlet* has Lord Polonius say,

Neither a borrower nor a lender be;
For loan oft loses both itself and friend,
And borrowing dulls the edge of husbandry.

Basically, debt has a terrible reputation. "I'm an accumulator; no debt for me," you might hear someone you respect say. Or perhaps you had a grandparent or other family member say, "When I die, I want to die debt free so I can pass my wealth, not my obligations, on to my children or grandchildren." Or you might know some fiercely independent person who has told you, time and again, that they don't want anyone—least of all a bank or financial institution—having "anything over me."

This general, sweeping, negative view of debt can also be found in financial articles and books written for individuals and families. As part of putting this book together, an in-depth online research effort was conducted to assess whether Strategic Debt Philosophy and Practices were fairly evaluated and considered. After wading through many online articles that simply focus on the best way to restructure and get rid of debt as soon as possible, about 20 online articles were discovered that had something positive to say about debt.

Mainly, these 20 or so articles discussed the difference between *good debt* (for example, taking on debt for educational purposes or to buy a house—a subject we'll return to later on) and *bad debt* (for example, credit card debt). None of these articles—not a single one—recommended that wealthy individuals and families investigate the idea of attaining an optimal debt ratio throughout their lives. Instead, the simplistic idea that all debt is bad kept popping up, and the importance of eventually getting rid of all debt showed up time and time again.

What we are facing, then, is a knee-jerk antidebt reaction—ingrained aversion to debt. In a certain sense, this makes sense, because many people are *either totally debt averse* (either have no debt at all or have the goal of having no debt at all) or *have way too much debt* and are overleveraged and have therefore put themselves at an increased risk of financial distress. Those who see others getting into trouble have their prejudice against all debt in all circumstances reinforced. Similarly, as some of the concepts in this book may at first seem unusual, counter-intuitive, or even controversial, it is easy to see why a quick look might just serve to further fan the flames of the all-debt-is-bad perspective.

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The real problem, then, is the lack of education that almost everyone has about the use of Strategic Debt.

The lack of education has been compounded by strong antidebt prejudices that have been reinforced throughout popular culture for centuries. While it may be true that for many individuals debt should be avoided like the plague, it's just as certainly true that a wealthy individual or family can intelligently take advantage of the Indebted Strengths that come from taking on the right kind of debt and achieving an optimal debt ratio.[14]

In short, *most popular views on debt are extremely limited*. They don't consider how a wealthy individual or family can greatly benefit from the right kind of debt. They don't consider the value of thinking and acting like a company in appropriate circumstances, and they don't explore the Indebted Strengths that come hand in hand when strategically taking on appropriate debt.

Instead, they simply rely on the knee-jerk reaction that most people have toward debt, as if all people taking on debt were the same and all types of debt were the same. By understanding these limitations on popularly held notions of debt, you can free your mind, shed your prejudices, and begin the investigation of whether the ideas and practices suggested here might make sense and be appropriate for you and your family.

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Fourth Tenet: Set Your Sights on an Optimal Personal Debt Ratio

One premise of this book is that when it comes to an ideal debt ratio, there is an optimal sweet spot for individuals, just like there is for companies, and that those of us who can afford to do so should most certainly be targeting that sweet spot. As pointed out earlier, there tend to be two types of people: those who are very highly leveraged and take on way too much debt and those who are totally debt adverse and don't have any debt whatsoever.

If, however, you have considered (or better yet, have already accepted and adopted) the first three tenets of Strategic Debt Philosophy—adopt a holistic approach, explore thinking and acting like a company, understand limitations on commonly held views of debt—then you are ready to at least consider adopting the fourth tenet, which is to set your sights on an optimal personal debt ratio.

You see, there is so much antidebt loading in our culture and society that even the idea that there is—or might be—something called an optimal personal debt ratio is quite foreign to most people, even those who work in the world of finance. But once you have understood that there is in fact an ideal debt ratio—or an ideal range—for you (and your family) to personally target, you can go about doing what it takes to achieve that ideal ratio or target range. Exactly what that range is will be discussed in the next chapter on Strategic Debt Practices.

> Setting your sights on achieving that ideal ratio makes it far more likely that you will achieve it.

In Chapter 3 I discuss how to examine your balance sheet to determine your current debt ratio, how your debt ratio may change over time, and some of the ironies that are involved with attaining optimal debt ratios, for example, those who are at the greatest risk of financial distress are also the ones who can benefit the most from their Indebted Strengths. The key point here, though, is to understand that there is indeed such a thing as an optimal debt ratio for wealthy individuals and families, and that if you don't yet understand how strategic debt can benefit you, then you are unlikely to ever obtain this ideal ratio.

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WHEN DETERMINING YOUR IDEAL DEBT RATIO REALLY HITS HOME

There is a big issue that needs to be considered when approaching the value of debt and setting one's sights on an ideal debt ratio. That issue involves whether one should own one's home free and clear, as well as exactly how to calculate one's debt ratio with regard to this. This issue will be returned to in some detail when I show you how to calculate your debt ratio.

For now, let's just acknowledge that some people feel very strongly that they should indeed own their primary residence free and clear, and that while this belief is justifiable, it is not mutually exclusive with respect to many of the ideas found in this book.

Fifth Tenet: Stay Open-Minded, Ask Questions, and Verify What Works

In the introduction the following statement was made:

> The real goal of this particular book is to challenge your basic assumptions and beliefs about the wise use of debt.

The fifth tenet or action principle, then, is all about thinking, questioning, and verifying the ideas and practices that have been presented in this book. Even if something looks like a great idea, don't necessarily assume it is true or appropriate for you and your family or will work in your situation.

On the one hand, then, you want to stay as open-minded as you can. On the other hand, you want to be relentless in your questioning, your inquiries, and your determination as to whether any particular practice laid out in this book is the right thing for you to do. Whether any particular practice or action is what works in your case will take some investigation and discernment, so please be willing to put on your thinking cap and take the time to really understand your situation and what is being suggested.

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Chapter 1: Summary and Checklist

This chapter described the five tenets—or action principles—that taken together constitute Strategic Debt Philosophy. The first tenet, which is "Adopt a Holistic (Comprehensive)—Not Atomistic—Approach," says that you should look at Strategic Debt Philosophy, as well as everything concerning the management of your wealth, in a complete, comprehensive, big picture manner.

The second tenet, "Explore Thinking and Acting Like a Company," asks you to consider why nearly all companies embrace a holistic approach to their balance sheets, one that consciously optimizes the amount of debt that a company has. The third tenet, "Understand Limitations on Commonly Held Views of Personal Debt," considers popularly held—and almost universally negative—views on debt. It also reviews the research that was done in preparation for writing this book, research that shows that the idea that "all debt is ultimately bad"

is pervasive in online articles and that, to our knowledge, no previous book has comprehensively addressed this subject matter.

The fourth tenet—"Set Your Sights on an Optimal Personal Debt Ratio"—considers the value of understanding and then being guided by an optimal debt-to-assets ratio, first for companies and then for individuals and families. Finally, the fifth tenet concerns the nature of practical knowledge generally, and strongly advises you to "Stay Open-Minded, Ask Questions, and Verify What Works" in your particular situation.[15]

Checklist

- ❑ Does the first tenet—adopt a holistic approach—make sense to you?
- ❑ Do you understand the value of exploring thinking and acting like a company does, as the second tenet suggests?
- ❑ Were you surprised to learn that virtually every U.S. company of any size consciously optimizes its balance sheet, that is, takes on debt on purpose?
- ❑ Can you see how popular culture reinforces the notion that all debt is bad, as per the third tenet?
- ❑ Does setting your sights on achieving an optimal personal debt ratio—as the fourth tenet suggests—make sense to you? Do you intend to at least look into your own debt ratio to see whether it is optimal?
- ❑ Are you committed to the action steps stated in the fifth tenet: stay open-minded, ask questions, and verify what works in your own situation in consultation with your family members and professional advisors?

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Notes

1. Stephen A. Ross, Randolph Westerfield, and Jeffrey Jaffe, *Corporate Finance*, 10th ed. (New York: McGraw-Hill, 2013). Pages 494–525 address this subject in detail.
2. www.federalreserve.gov/econresdata/scf/files/2010_SCF_Chartbook.pdf provides great insight into the general trends of individuals. This specific

statement is also derived from surveys, the collective experience of my team, and the experience of the bankers I have worked with throughout my career.

3. According to John Graham and Campbell Harvey, "The Theory and Practice of Corporate Finance," *Journal of Financial Economics*, May/June 2011, most firms employ target debt-equity ratios. Only 19 percent of the firms avoid target debt ratios. Results elsewhere in the paper indicate that large firms are more likely than small firms to employ these targets. Ten percent have a very strict target; 34 percent have a somewhat tight target/range; 37 percent have a flexible target; and 19 percent have no target ratio or range.
4. Ross, Westerfield, and Jaffe, *Corporate Finance*, 11. The text continues with a discussion on profit maximization as the most commonly cited goal. Multiple goals of a corporation clearly exist, such as survive; avoid financial distress and bankruptcy; beat the competition; maximize sales of market share; minimize costs; maximize profits; maintain steady earnings growth. The text also explains that the goals fall into two primary classes: profitability and controlling risk/avoiding bankruptcy.
5. Even nonprofit organizations have a goal of not losing money. It is outside of the scope of this book to go into detail on nonprofit objectives and their use of debt, but we can safely say that many nonprofits have CFOs and many use debt strategies similar to the ideas expressed in this book.
6. Ross, Westerfield, and Jaffe, *Corporate Finance*, 2. "Finance can be thought of as the study of the following three questions: (1) "In what long lived assets should the firm invest? This question concerns the left side of the balance sheet." (2) "How can the firm raise cash for required capital expenditures? This question concerns the right side of the balance sheet. The answer to this question involves the firm's capital structure which represents the proportions of the firm's financing from current and long-term debt and equity." (3) "How should short term operating cash flows be managed? This question concerns the upper portion of the balance sheet." In my experience I have found that in most people's personal lives a great amount of thought goes into what assets we should invest, some thought to managing short-term operating cash flows, and the least amount of thought to the individual's (or individual family's) capital structure.
7. Ross, Westerfield, and Jaffe, *Corporate Finance* and John Graham and Campbell Harvey, "The Theory and Practice of Corporate Finance," *Journal of Financial Economics*, May/June 2011.
8. www.nytimes.com/2011/08/03/business/aaa-rating-is-a-rarity-in-business.html?pagewanted=all&_r=0. This potentially excludes some big insurers and some government-affiliated organizations. Arguably all large companies have different forms of short-term debt such as accounts payable, accrued payroll, and so on, and all have lines of credit to facilitate short-term differences in

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payables and receivables. The number of AAA companies will, of course, change over time. The concept, which is a key driver, is expressed well in this article: http://blogs.hbr.org/financial-intelligence/2009/07/when-is-debt-good.html. See also Ross, Westerfield, and Jaffe, *Corporate Finance*, 548, and http://usatoday30.usatoday.com/money/companies/management/2005-03-15-aaa-usat_x.htm.

9. See the following for a specific example of a company using debt to buy back shares: www.reuters.com/article/2013/04/24/apple-debt-idUSL2N0DB1X020130424.

10. Eugene F. Brigham and Joel F. Houston, *Fundamentals of Financial Management*, Concise 4th (Mason: Thomson/South-Western, 2004), 465.

    The optimal capital structure is debated and changes throughout time. It is discussed in the following papers: A. Kraus and R. H. Litzenberger, "A State-Preference Model of Optimal Financial Leverage," *Journal of Finance*, September 1973, 911–922; Murray Z. Frank and Vidhan K. Goyal, "Trade-Off and Pecking Order Theories of Debt," February 22, 2005. Available at SSRN: http://ssrn.com/abstract=670543; M. H. Miller. "Debt and Taxes," *Journal of Finance*, 1977, http://ideas.repec.org/a/bla/jfinan/v32y1977i2p261-75.html; S. C. Myers, "The Capital Structure Puzzle," *Journal of Finance* 39, no. 3, Papers and Proceedings, Forty-Second Annual Meeting, American Finance Association, July 1984, 575–592; Working Paper by the Brattle Group, "The Effect of Debt on the Cost of Equity in a Regulatory Setting," Edison Electric Institute (EEI), Washington DC, 2005, http://wpui.wisc.edu/docs/effect_of_debt.pdf; E. Fama and K. French, "Testing Tradeoff and Pecking Order Predictions about Dividends and Debt," *Review of Financial Studies* 15 (Spring 2002): 1–37; www.nber.org/papers/w8782.pdf. Additional details can be found in later chapters and citations.

11. Implicit in this CFO comment are the concepts of Weighted Average Cost of Capital and the Modiglini-Miller Theorem: F. Modigliani and M. Miller, "The Cost of Capital, Corporation Finance and the Theory of Investment," *American Economic Review* 48, no. 3 (1958): 261–297; F. Modigliani and M. Miller, "Corporate Income Taxes and the Cost of Capital: A Correction," *American Economic Review* 53, no. 3 (1963): 433–443; Ross, Westerfield, and Jaffe, *Corporate Finance*, 494–525, addresses this subject in detail. Excerpts from the text follow:

    Page 496: "Managers should choose the capital structure that they believe will have the highest firm value because this capital structure will be most beneficial to the firm's stockholders."

    Page 499: "Modigliani and Miller (MM or M&M) have a convincing argument that a firm cannot change the total value of its outstanding securities before changing the proportions of its capital structure. In other

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words, the value of a firm is always the same under different capital structures. In still other words, no capital structure is any better or worse than any other capital structure for the firm's stockholders. This rather pessimistic result is the famous MM Proposition 1."

Page 500: "MM Proposition 1 (no taxes): The value of the levered firm is the same as the value of the unlevered firm. This is one of the most important results in all of corporate finance. In fact, it is generally considered the beginning point of modern managerial finance."

Page 510: "In the presence of corporate taxes, the firm's value is positively related to its debt."

Page 511: "Value is maximized for the capital structure paying the least in taxes. In other words, the manager should choose the capital structure that the IRS hates the most. We will show that due to a quirk in U.S. tax law, the proportions of the pie allocated to taxes is less for the levered firm than it is for the unlevered firm. Thus managers should select high leverage."

Chapter 17, Page 526: "Capital Structure Limits to the Use of Debt": "Should managers really set their firm's debt to value ratios near 100 percent? If so, why do real world companies have, as we show later in this chapter, rather modest levels of debt?"

Page 536: Integration of Tax Effects and Financial Distress Costs. "The tax shield increases the value of the levered firm. Financial distress costs lower the value of the levered firm. The two offsetting factors produce an optimal amount of debt. According to the static theory, the R(WACC) falls initially because of the tax advantage of debt. Beyond point B*, it begins to rise because of financial distress costs."

Page 537: "Our discussion implies that a firm's capital structure decision involves a tradeoff between the tax benefits of debt and the costs of financial distress. In fact, this approach . . ."

Also see the following sections: 17.1, "Costs of Financial Distress," page 526; 17.2, "Description of Financial Distress Costs," page 528; and "Indirect Costs of Financial Distress," page 530.

12. The notion of constant debt ratios over time for corporations, and therefore an increase of their outstanding debt over time (and my subsequent investigation of this phenomena), was triggered by a lecture that Joel Stern gave at the University of Chicago in the Fall of 2012.

13. Ross, Westerfield, and Jaffe, *Corporate Finance*, Chapter 15. This is true with respect to corporate bonds. There are examples of certain asset-backed securities such as equipment trust certificates that railroads have used (among others) that either have direct amortization or a toggle feature that can trigger amortization. There also are mortgage-backed securities that contain an

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income stream that is comprised of both principal and interest payments. Many private company bank loans are subject to amortization terms. The fact that these loans and securities exist does not preclude the fact that publicly traded corporate debt is issued on an interest-only basis.

While no publicly traded companies issue bonds with built-in amortization, there are indeed amortizing bonds issued in the private equity markets. Also, corporations will establish sinking funds for their bonds where the money needed to repay the principal is put into escrow. However, the company still controls the cash, and the ongoing payments it makes on its debt will be interest only, that is, the only time you will receive a repayment of the principal is when the bond is called or matures. An individual can, of course, create a sinking fund as well.

14. Ziv Bodie, Alex Kane, and Alan Marcus, *Investments*, 9th ed. (New York: McGraw-Hill, 2011), Section 12.1, "The Behavioral Critique in Investments." Implicit in this section are the ideas of behavior finance. Investors may accept the financial theory outlined in these ideas but be unwilling to implement them. This can occur due to a number of reasons. The discussion in this section of the text is largely based on Nicholas Barberis and Richard Thaler, "A Survey of Behavioral Finance," in *Handbook of the Economics of Finance*, ed. G. M. Constantinides, M. Harris, and R. Stulz, 1053–1128 (Amsterdam: Elsevier, 2003).

    Page 385: "Prospect Theory modifies the analytic description of rational risk-averse investors found in standard financial theory" from Bodie, Kane, and Marcus.

    Prospect Theory originated with a highly influential paper about decision making under uncertainty by D. Kahneman and A. Tversky, "Prospect Theory: An Analysis of Decision under Risk," *Econometrica* 47 (1979): 263–291. The ideas in this theory and in behavioral finance are important to understand and overlap with the ideas in the book. Combining behavioral finance with traditional finance can help an advisor gain a better understanding of individuals' feelings toward debt, their risk reward objectives, and their optimal debt ratios.

15. The information in this chapter is to be considered in a holistic way as a part of the book and not to be considered on a stand-alone basis. This includes, but is not limited to, the discussion of risks of each of these ideas as well as all of the disclaimers throughout the book. The material is presented with a goal of encouraging thoughtful conversation and rigorous debate on the risks and potential benefits of the concepts between you and your advisors based on your unique situation, risk tolerance, and goals.

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