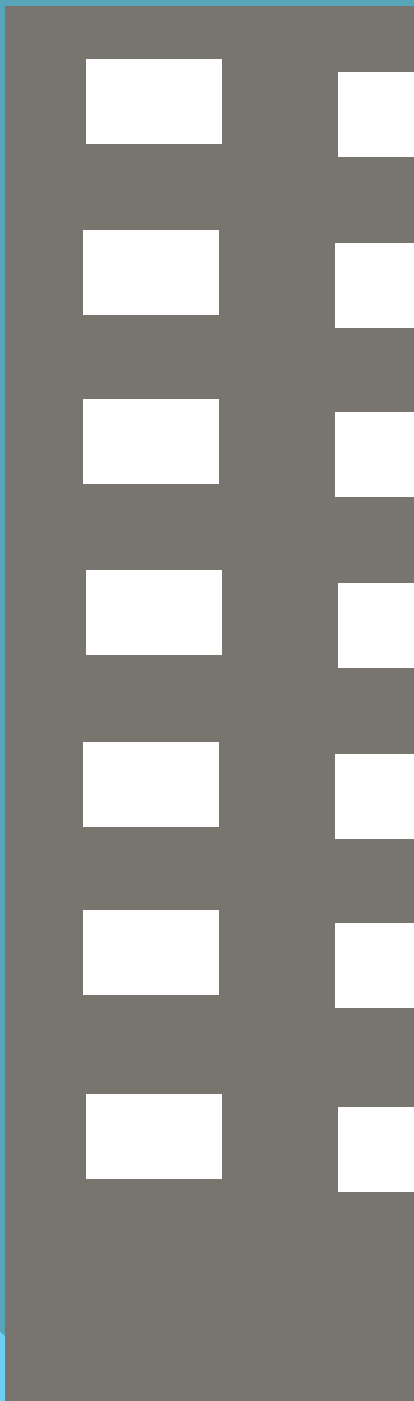
WHY BUSINESSES USE DEBT – AND HOW DEBT BENEFITS BUSINESSES

Rebel A. Cole, Ph.D.

EXECUTIVE SUMMARY

Why do companies acquire debt? This booklet provides an overview of the reasons why a business uses debt to finance a portion of its investments and explains how this is beneficial to the firm. It explains the differences between debt and equity, explores the pros and cons of using debt versus equity to finance a company's investments, and examines the prevalence of debt use by businesses, both public and privately held. It explores the implications for firms, the economy and for situations when a business needs, but cannot obtain, credit.[1]



The key findings of the booklet are:

- Accessing the credit markets enables a firm to grow beyond the size of its equity holders' investments.
- Four out of five businesses use debt to finance at least some portion of the firm's investments.
- On average, small businesses use one dollar of debt for each one-to-two dollars of equity, but this ratio varies widely across companies by industry, size and organizational form.
- Financial analysts measure how much a firm relies upon debt using leverage ratios. **Leverage**[2] refers to how much the firm relies upon debt relative to equity financing.
- These leverage ratios vary across firms along a number of different dimensions, including (but not limited to) size and legal form of organization and industry. Larger businesses, organized as corporations, and firms in asset-intensive industries (such as manufacturing and transportation) use more debt.
- Debt is also very important for smaller businesses and start-ups. According to the U.S. Small Business Administration, four in five small businesses use some form of debt in their capital structure. In addition, 75% of start-ups use some sort of debt financing at inception and this percentage remains relatively constant over the first five years of their operation. Debt enables the business to respond to funding emergencies that might otherwise force it to shut down.
- Debt enables a company to grow and expand its operations to increase production in a growing market.

75% OF START-UPS USE SOME SORT OF DEBT FINANCING AT INCEPTION

INTRODUCTION

Why do businesses use debt? This is one of the most fundamental questions facing financial managers. The answer is simple: Debt enables the owners of a business to grow the size of the firm beyond their **equity** stakes, that is, leverage their ownership interest in the company.

The answer to this question is especially important in the current political environment, where some policymakers perceive debt to be bad. In order to understand why companies use debt, one has to examine the costs and benefits associated with the issuance of debt. Only when the benefits of debt outweigh its costs will companies issue debt.

We begin with a basic definition of debt and equity. **Debt** is a *senior fixed* claim on the cash flows of the firm. Senior means that the claim must be paid first, before any other claims, fixed means that the amount of the claim is fixed (although it may be tied to some variable index). **Equity** is a *junior residual* claim on the cash flows of the firm. Junior means that senior claims must be paid first; *residual* means that the amount of the claim depends upon how much must first be paid out to senior claimants.

Debt enables the owners of a business to grow the size of the firm beyond their equity stakes.

THE PROS AND CONS OF DEBT AND EQUITY

Let us look at the fundamental tradeoff between issuing debt and issuing equity to finance a company's investments and activities. Equity offers investors two sets of rights: *cash-flow rights* and *control rights*. **Cash-flow rights** refer to the equity investor's claim to a pro-rata share of any distribution of profits, while **control rights** refer to the equity investor's say in the management of the company. (When the company is a corporation, control rights refer to the shareholder's votes at the firm's annual shareholder meeting, where a board of directors is elected and major company business is decided.)

In contrast, debt offers lenders only limited cash-flow rights: a partial (and fixed) claim on the company's cash-flows and assets. **Assets** are items owned by the company, such as cash, equipment and property. The claim by lenders to cash flows and assets is senior to the claim of equity holders. This means that the company must pay interest expenses to lenders before it pays a single dollar to equity investors, typically in the form of dividends. If the company's profits are insufficient to pay all of the interest expense of lenders, the lenders can seize loan **collateral**. If the value of collateral is insufficient to repay outstanding loans, in some instances the lenders can seek to liquidate the remaining assets of the company. In liquidation, the creditors must be paid in full before any funds are distributed to equity holders.

DEBT, EQUITY AND ASSET VALUE

To illustrate how asset value is linked to debt and equity, we use a simple example of a small, privately held company.

Assets ($)		Liabilities/ Equity ($)	
Cash	$20k	Acct. Payable	$30k
Equipment	$30k	Bank Loan	$40k
Real Estate	$50k	Equity	$30k
Total $100k		Total $100k	

The left side of the company's balance sheet shows its **assets**. The company has cash worth $20,000, equipment worth $30,000 and real estate worth $50,000. The total asset value is $100,000.

In accounting, assets always must be equal to debt plus equity. The right-hand side of the balance sheet shows the firm's **liabilities**, i.e., **debt** and **equity**. Our company has **accounts payable** (i.e., trade credit, or financing of assets by the firm's suppliers) worth $30,000, a bank loan worth $40,000, and owners' equity worth $30,000. In our example, the company has $70,000 of debt and $30,000 of equity, which, together, equal the $100,000 value of the firm's assets.

Financial analysts measure how much a firm relies upon debt using what are known as "leverage" ratios, which are some combination of debt, equity and assets. The *debt-to-equity* ratio for this company would be (30+40) / 30 or 2.33. The *asset-to-equity* ratio would be 100/30, or 3.33. The *equity-to-asset* ratio would be 30/100, or 0.30.

So what are the pros and cons of debt and equity? In terms of benefits, debt enables the business to raise new funds to finance growth without forcing the company's owners to give up a portion of control rights or the rights to residual cash flows. Debt also enables the firm to respond to funding emergencies when the owners are unable to provide additional equity. The interest expense associated with debt is often known in advance with no uncertainty. In addition, like all other ordinary business expenses, interest payments are appropriately tax-deductible. However, by issuing debt, the company exposes itself to the risk of **default**, should it be unable to meet its periodic interest payments.

PROS AND CONS OF DEBT (VS. EQUITY)

Pros:

- Enables the firm to grow
- Provides emergency liquidity
- No dilution of rights
- Costs are fixed and known
- Interest is tax deductible
- No underwriting costs

Cons:

- Increased potential for default
- Loss of cash-flow and control rights in event of default

In contrast, equity enables the business to raise new funds to finance growth without exposing itself to financial risk. However, by issuing new equity, existing owners are forced to give up control rights and a portion of their share of residual cash flows, which is known as **dilution**.

FOUR IN FIVE SMALL BUSINESSES USE SOME FORM OF DEBT IN THEIR CAPITAL STRUCTURE.

If the business is organized as a C-corporation, dividend distributions are taxed twice: once at the corporate level, then again at the personal level. This makes equity for public companies especially expensive.

Finally, if a company is publicly traded, issuance of new equity requires payments to an investment bank which will oversee the sale of the new shares. These payments are known as **underwriting costs** and can be substantial.

SOURCES OF DEBT: PRIVATE AND PUBLIC

Private - Trade credit: refers to short-term financing provided by one of a firm's suppliers. A retail firm may purchase inventory from a supplier and finance it using a short-term loan from the supplier. The term "two-ten/net 30" refers to a common trade-credit financing option whereby the firm gets a 2% discount if it pays the supplier within ten days, and full price if it pays the supplier within 30 days. After 30 days, the supplier typically levies a penalty interest rate of 1½% per month or more. Trade credit is very expensive - annualized interest rate of more than 60% when paid after 30 days.

Private - Bank debt: much cheaper than trade credit, companies can borrow from a financial institution, such as a commercial bank. Research shows that over half of all privately held firms, and virtually all public companies, have borrowed from at least one bank.

Public - Commercial Paper: is an unsecured, short-term, money-market security issued by a corporation, usually to finance inventory, accounts receivable or payroll expenses. Commercial paper maturities are typically 30 – 270 days and are only available to the most creditworthy firms. In the U.S., fewer than 2,000 companies can issue commercial paper, but the size of the market is huge, about $2 trillion.

Public - Corporate Bond: is a negotiable debt security that obligates the issuing corporation to make periodic interest and principle payments to the purchaser. Corporate bonds vary between "fixed", where the interest payment may be a "fixed" percentage of the principal and "floating", where it may "float" in tandem with an interest rate index, such as the Prime Rate. Because corporate bonds are publicly traded, they are highly liquid. Only about 6,000 U.S. corporations are large enough to access the corporate bond market.

MOST BUSINESSES USE CREDIT

Most businesses use debt to finance at least some portion of their activities and investments.

This is true not only for large publicly traded companies, such as Google and Coca-Cola, but also for small, privately held companies that may be organized as partnerships or proprietorships, and S corporations.

Answers to when will a company acquire debt and how much it will borrow are dependent on a number of decisions made by both the company and its prospective lender. Consider this simple example. First, the company must decide it needs to finance an activity. Second, it must decide that using debt is preferable over equity. On the lender's side, the bank must decide whether or not to extend credit to the company. The bank makes this decision based on its evaluation of the company's ability to service the new debt, i.e., repay the loan with interest. This determination typically involves a review of the company's financial statements and credit history, to assess current profitability and projected cash future flows, and the existing indebtedness.

Finally, banks themselves are constrained by regulations regarding the aggregate amounts they can extend to one borrower or one type of loan, as well as the aggregate amount they can lend when compared to the amount of the bank's capital.

EVIDENCE ON PRIVATELY HELD U.S. FIRMS FROM THE SURVEYS OF SMALL BUSINESS FINANCES

Academics are keenly interested in why, and how, firms use debt. In this section, we will review some highlights of their findings.

Two recent studies provide the first comprehensive look at the **capital structure** (the mix of debt and equity financing) of privately held U.S. firms.[3] Both studies analyze data from a series of four nationally representative surveys of small businesses (defined by the U.S. Government as those with 500 or fewer employees) conducted by the Federal Reserve Board in 1987, 1993, 1998 and 2003, and collectively known as the Surveys of Small Business Finances ("Small Business Surveys").[4]

The first study, published in 2010 by the U.S. Small Business Administration, finds that **four in five small businesses use some form of debt in their capital structure** in each of the survey years. Both studies find that the use of debt by privately held firms is common, and varies by firm size, industry and legal form of organization.

Debt is fundamental to the operation of small business. Comparisons of debt usage typically examine leverage ratios across companies, i.e., the amount of debt (or liabilities) as a percentage of total assets.

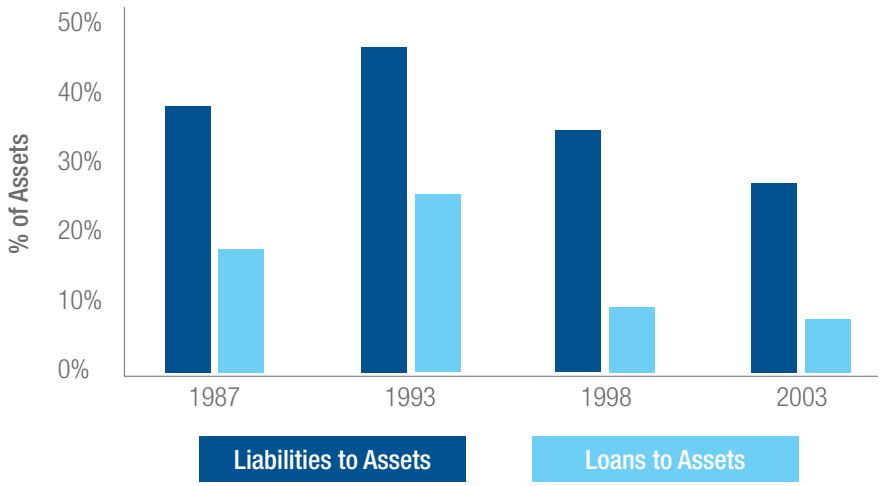


Figure 1: Leverage at Privately Held U.S. Firms
Source: Federal Reserve's Surveys of Small Business Finances

As shown in **Figure 1**, the second study of Small Business Surveys finds that the use of debt is universal. The median ratio of total liabilities to total assets ranges from a low of 27% in 2003 to a high of 47% in 1993. This implies that the average small business uses one dollar of debt for each one-to-two dollars of equity, but this ratio varies widely across companies by industry, size and organizational form.

The median ratio of loans to assets (which excludes short-term borrowing from trade-credit suppliers) ranges from a low 7% in 2003 to a high of 25% in 1993. The ratio of loans to assets follows the same pattern as liabilities to assets in this study.

EVIDENCE ON U.S. START-UP FIRMS FROM THE KAUFFMAN FIRM SURVEYS

Another recent study[5] provides evidence on the use of debt by U.S. start-up firms, using data from the Kauffman Firm Surveys. The Kauffman Firm Surveys track a nationally representative sample of U.S. firms established during 2004 across their first years of operation.

As shown in **Figure 2**, this study finds that about **75% of these newly established businesses used some sort of debt financing at start-up**, and that this percentage remains relatively constant over the first five years of their operation. The study disaggregates borrowing into business credit and personal

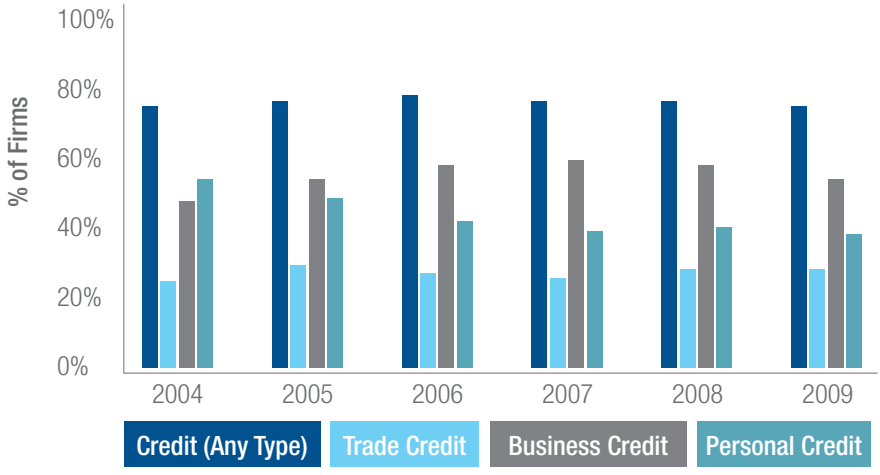


Figure 2: Use of Credit by U.S. Start-Up Firms
Source: 2004-2009 Iterations of Kauffman Firm Surveys

credit, and finds that personal credit is used by about 55% of these firms at start-up while business credit is used by about 45%. During their first three years of operation, these percentages reverse, with use of business credit rising to about 60% while use of personal credit drops to 40%. The study attributes this shift to the lack of a track record at start-up, which changes as the firm develops a credit history during its first years of operation.

EVIDENCE ON PUBLICLY TRADED U.S. CORPORATIONS FROM COMPUSTAT

The 2012 study of Small Business Surveys also provides evidence on the use of leverage by publicly traded companies. In order to compare leverage at public and privately held businesses, it calculates leverage ratios for public companies using data from Compustat from 1987, 1993, 1998 and 2003—the years for which the Small Business Surveys' data on privately held firms are available. The study finds that **the use of debt is even more prevalent at public companies than at private companies.**

As shown in **Figure 3**, the median ratio of liabilities to assets ranges from a low 43% in 1998 to a high of 56% in 2003. The median ratio of loans to assets, which exclude trade credit, ranges from a low of 21% in 2003 to a high of 25% in 1987.

When compared with Figure 1, we see that public companies use even more debt than do private companies.

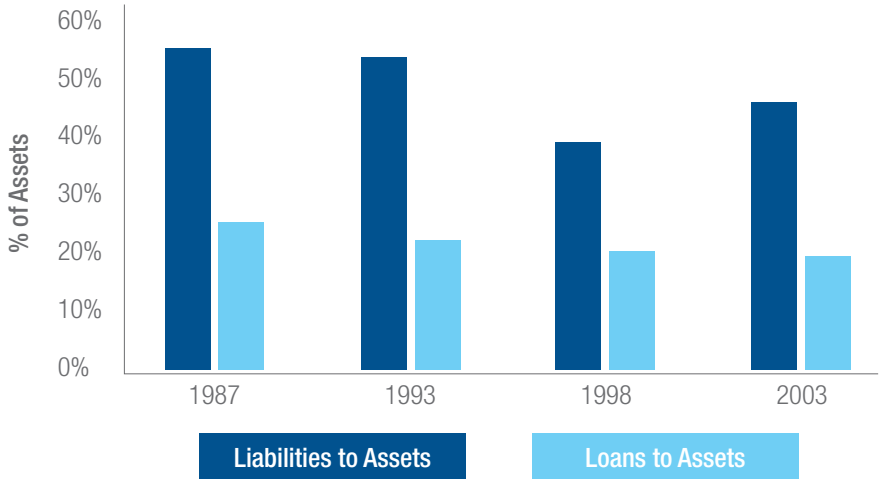


Figure 3: Leverage at Publicly Traded U.S. Firms
Source: Compustat data for 1987, 1993, 1998 and 2003

WHEN COMPANIES USE DEBT: A PRACTICAL VIEW

Now that we have shown how often companies use debt, we explore a couple of practical examples.

PROPRIETORSHIP SEEKING MAINTENANCE

Chez José is a small restaurant owned by its proprietor—José Smith. Last week, José learned that he needs a new roof on his building, and that this will cost him $10,000. Unfortunately, José only has $5,000 in savings. Because his business is a proprietorship, José cannot obtain additional equity from outside equity investors, so his only real option is to borrow the needed funds from a bank. A bank loan is the most common form of business debt. In this situation, if José cannot obtain debt financing, he will not be able to fix his roof; instead, he would have to shut down his company and lay off his employees.

PUBLIC CORPORATION SEEKING TO EXPAND

Koala Corp is a public traded company that is seeking to expand its operations by adding new machinery. As a public company, Koala Corp could engage in a secondary equity offering, selling new shares to outside investors. However, selling new shares will **dilute** the ownership of existing investors, reducing their cash-flow and control rights. There also are large fixed **underwriting costs** associated with selling new shares that must be paid to investment bankers.

As an alternative to issuing new shares, Koala Corp can follow the example of Chez José and borrow the needed funds from a bank; or Koala can tap the public debt markets by issuing a corporate bond. In addition to avoiding the underwriting costs and dilution of shareholders, a company can obtain debt at a lower cost than equity because of the senior payment status of lenders relative to shareholders. For all of these reasons, even a publicly traded company like Koala Corp often prefers to finance new assets with debt rather than with equity.

WHY CERTAIN TYPES OF BUSINESSES USE MORE DEBT THAN OTHER TYPES OF BUSINESSES

Academics have developed two competing theories of capital structure to explain why certain types of businesses use more credit than others. They predict that leverage will differ across firms in different industries, across firms of different size, and across firms with different forms of legal organization. Data from the Small Business Surveys support each of these predictions.

INDUSTRY

Firms with better collateral should be able to borrow more funds at more attractive rates because collateral provides lenders with a higher return in the event of financial distress. Real assets, such as buildings, equipment and vehicles, are considered by lenders to be good collateral, whereas intangible assets such as franchise value and intellectual property are considered to be poor collateral. Consequently, we expect to find that firms in certain industries, such as construction, manufacturing and transportation, will use significantly more debt in their capital structure than will firms in business and professional services.

As shown in **Figure 4**, this is exactly what we observe. Small businesses in construction and manufacturing have average leverage ratios in the range 0.30 – 0.40 whereas companies in business and professional services have average leverage ratios in the range of 0.15 – 0.20. There is considerably more variation at the company level.

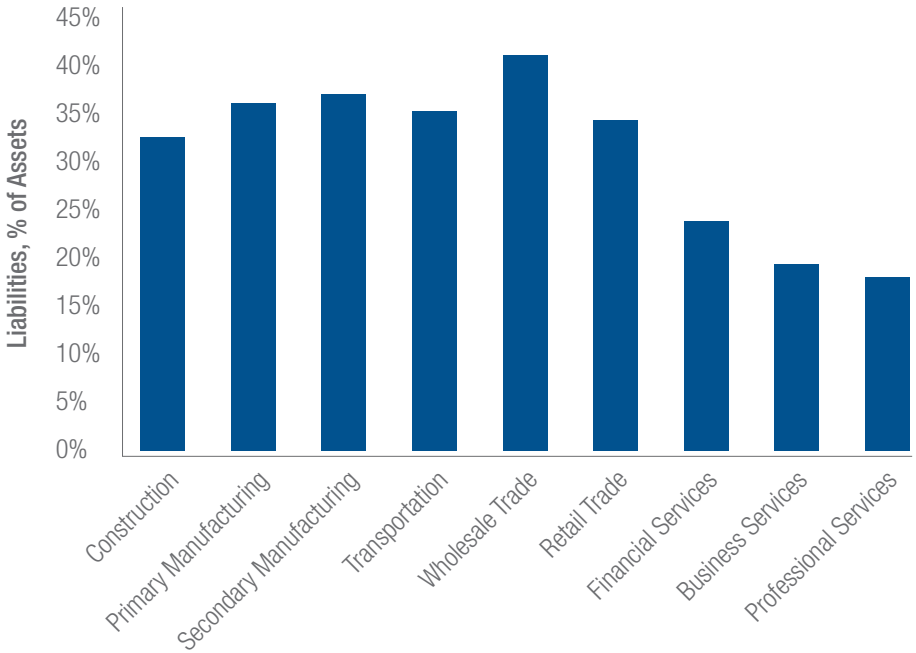


Figure 4: Leverage by Industry (One-Digit Standard Industrial Classification)
Source: Federal Reserve's 2003 Survey of Small Business Finances

SIZE

Small businesses frequently rely on debt to finance activities. Among small businesses, we find that larger companies rely more on debt for financing. Because larger companies generally are more diversified, they typically have lower incidence of default; in other words, they are more creditworthy. There also is more public information about larger companies, so **asymmetric information** between insiders and outsiders to the company are less severe. Therefore, outside investors are more comfortable lending to these companies. For these reasons, we expect to find that larger businesses will use more leverage.

As shown in **Figure 5**, this is exactly what we see. When firms are sorted into four asset size quartiles, we find that the median leverage ratio is 6% for the smallest quartile firms (less than $35,000 in assets), then increases to 28% for the second quartile ($35,000 - $175,000), 39% for the third quartile ($175,000 - $1.1 million), and, finally, to 43% for the largest quartile of firms ($1.1 million - $10 million).

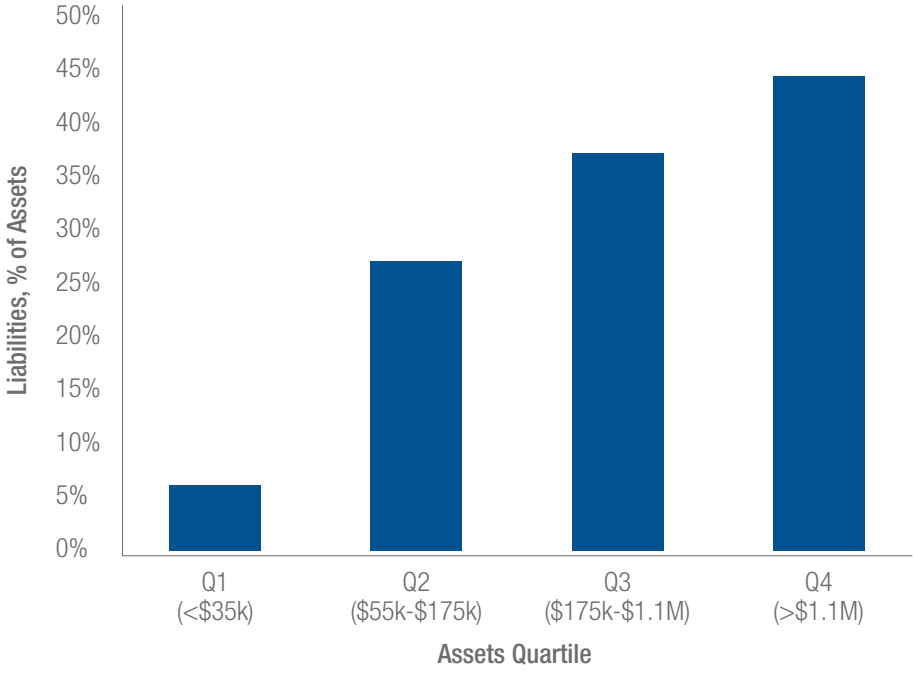


Figure 5: Leverage by Asset Size (Quartiles)
Source: Federal Reserve's 2003 Survey of Small Business Finances

LEGAL FORM OF ORGANIZATION

When an entrepreneur starts a new firm, she must choose a legal form of organization. The simplest form of organization is the sole proprietorship, which does not legally distinguish between the firm and its owner, so that it essentially commingles the finances of the owner and the firm. For a proprietor, her personal wealth is at risk from any financial distress of the firm.

Alternatively, the entrepreneur may also choose a legal form of organization that offers **limited liability (LLC)**, such as the corporation or limited-liability company. Limited liability refers to the legal protection that the forming a corporation offers to an investor—her liability for the firm's debts is limited to her equity investment. We expect that firms offering limited liability to their owners would choose higher levels of leverage than other organizational forms because, in the event of default, losses are shared with creditors.

As shown in **Figure 6**, this is exactly what we see: corporations use significantly more debt in their capital structure than partnerships or sole proprietorships. Corporations report a median leverage ratio of 0.51 while proprietorships report a median leverage ratio of 0.08; partnerships fall in between at 0.31.

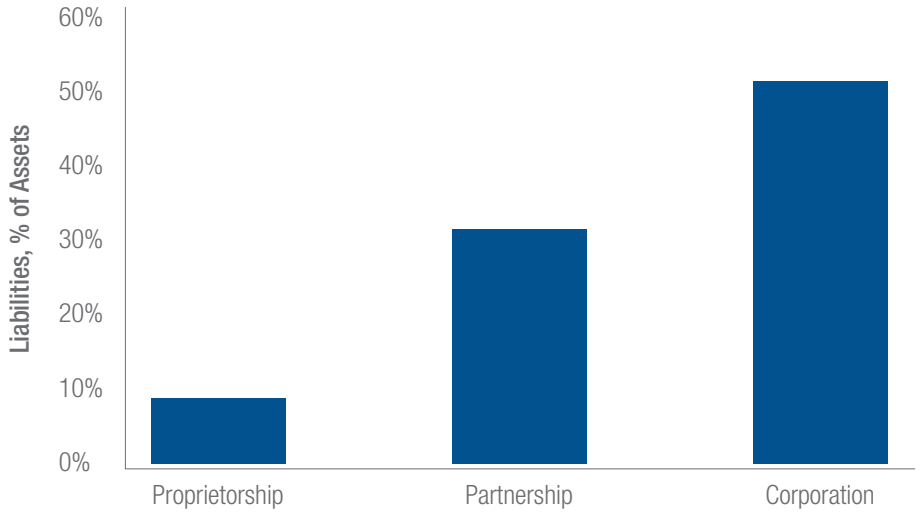


Figure 6: Leverage by Legal Form of Organization
Source: Federal Reserve's 2003 Survey of Small Business Finances

CONCLUSIONS

In this short document, we have explained why the vast majority of businesses use debt, as well as equity, to finance their investments and activities. Businesses use debt because it enables a company to grow and expand its operations, even when the company's owners are seeking new capital to invest. Access to the credit market also enables the company to respond to unevenness in cash flow, such as needing payroll at the beginning of the month that might otherwise force it to shut down.

We also have documented how the use of debt varies across different types of businesses as measured by a number of different dimensions: industry, size and legal form of organization.

Larger businesses and companies organized as corporations use more leverage than smaller companies and companies organized as proprietorships. Yet, the vast majority of small businesses and start-up companies use debt of some form. Companies in industries that are asset intensive, such as manufacturing and transportation, use more leverage than companies in industries that are knowledge based, such as business and professional services.

The availability of debt financing is critical for businesses to grow and compete.

APPENDIX:

DEFINITIONS OF FINANCIAL TERMS

Accounts Payable: Short-term debt obligations of the firm, typically consisting of financing of the firm's assets by a supplier.

Assets: Items owned by the firm, such as cash, equipment and property. Assets can also be intangibles, such as goodwill.

Asymmetric Information: Differing levels of information about the firm's financial prospects available to inside and outside investors.

Capital Structure: The mix of debt and equity used by a firm to finance its assets.

Cash-Flow Rights: Rights of the firm's owners to receive a share of any distribution, such as dividends, proportional to their ownership share.

Collateral: Assets pledged by a firm to its lender that can be seized in the event of default.

Control Rights: Rights of the firm's owners to a share of votes in firm governance matters, such as election of the board of directors, that is proportional to their ownership share.

Debt: A *senior fixed* claim on the cash flows of the firm.

Default: Failure to make a contractual payment on a debt obligation of the firm. Default can also be a failure to meet the loan covenants, such as debt to equity requirements.

Dilution: Reduction in cash-flow and control rights associated with issuing new shares of equity.

Equity: A *junior residual claim* on the cash flows of the firm that provides the owner with both *cash-flow* and *control* rights.

Leverage: A measure of how much debt versus equity a firm uses in its capital structure. Typical measures include debt-to-equity, debt-to-assets, and assets-to-equity.

Limited liability: Legal protection that certain legal forms of organization, such as the corporation, offer to an investor: the investor's liability for the firm's debts is limited to the amount of her equity investment in the firm.

Trade Credit: Financing provided by a firm's supplier, typically for purchases of inventory.

Underwriting Costs: Fees that must be paid to a Wall Street firm for overseeing the issuance of new shares of public equity.

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ENDNOTES

1. For purposed of this paper, “debt” and “credit” are used interchangeably. (Page 2)

2. Terms in bolded italics are defined in the Appendix at the end of this document. (Page 3)

3. See Cole (2010, 2012) in the list of references at the end of this document. The 2010 study looks only at data from the 1993, 1998 and 2003 surveys, while the 2012 study also looks at data from 1987. (Page 9)

4. The Federal Reserve Board, which sponsored the SSBFs, decided in 2006, before the financial crisis, to cancel the planned 2008 iteration of the survey in order to save its $6 million cost. This decision has left policymakers with no comprehensive information on status of privately held U.S. businesses since the 2003 survey. (Page 9)

5. See Cole and Sokolyk (2012). (Page 10)

ABOUT THE AUTHOR

Dr. Rebel Cole is a Professor of Finance in the Driehaus College of Business at Chicago's DePaul University. Early in his career, he worked for ten years as a banking analyst and economist in the Federal Reserve System. After leaving the Fed, he has served as a special advisor to the International Monetary Fund and the World Bank, providing training and technical assistance to central banks in developing countries. During the past decade, he has participated in more than 30 international missions to assist in the development of stress tests, financial stability indicators, and off-site monitoring systems for commercial banks and other financial institutions.

Dr. Cole has published peer-reviewed articles in top academic journals, and his works have been cited by other scholars more than 3,400 times. Dr. Cole's primary areas of research are commercial banking, corporate governance, financial institutions, real estate and small-business finance. He received his Ph.D. in Business Administration from the University of North Carolina in 1988.

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