# LEVERAGED BUYOUTS

## A Practical Introductory Guide to LBOs

DAVID PILGER

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A PRACTICAL INTRODUCTORY GUIDE TO LBOS

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Set in Garamond and Gotham Narrow.

Hh Harriman House

This book is dedicated to Ashley. For your patience and support during the writing of this book – thank you.

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# ABOUT THE AUTHOR

David Pilger is a founder and principal at Flex Banker LLC, a corporate advisory firm focused on providing corporate finance and capital raising advice to growing companies with innovative technologies. Flex Banker focuses on education, Ag-science, alternative energy, and manufacturing/industrial sectors as well as the financial sector. In addition to advising emerging growth companies with game-changing technology, he has been a consultant or advisor to large institutional clients such as Goldman Sachs, Morgan Stanley, and Pepsico to name a few.

David teaches corporate valuation and financial modeling and trains financial industry professionals at top financial institutions such as Paulson & Co., Barclays Capital, and other leading financial institutions at Blue Chip Career advisors.

Prior to working at Flex Banker, David specialised in senior bank debt at Goldman, Sachs & Co. He oversaw approximately $2 billion in the firm's bank loan structured trading and derivative portfolios. Before joining Goldman Sachs, he worked in investment banking at Merrill Lynch and Shinsei Bank in Tokyo, Japan, focusing on corporate advisory and M&A within the financial institutions sector.

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# PREFACE

## WHAT THIS BOOK IS ABOUT

This book is designed to explain the logic, concepts and analytical techniques behind leveraged buyout analysis – in plain (and painless) English and with a practical emphasis.

It explains leveraged buyouts and everything involved in their analysis. It also contains a detailed step-by-step guide to the process of putting together an LBO analysis. This lays bare the analytical model most often used by practitioners in the investment industry, in a sequential narrative form. Readers should be able to take the techniques described in this book and create their own leveraged buyout analyses. A complete MS Excel version of the leverage buyout analysis can be found at **www.fin-models.com**.

## WHO THIS BOOK IS FOR

This booked is designed for the individual who wants to learn the fundamental principles and modeling techniques of LBO analysis, as used by financial analysts in the investment banking industry.

With the modeling analysis approached from a practitioner's standpoint, it is assumed that the reader is most interested in a *practical* approach. The emphasis is on the approach a practitioner takes on a daily basis in preparing a leveraged buyout analysis. This is as opposed to an academic approach, which would be more focused on theory and leveraged buyouts as a concept (though the theory and concept is dealt with in the first few chapters).

## WHAT KNOWLEDGE IS ASSUMED

It is assumed that the reader has had a previous introduction to financial statements (the income statement, balance sheet and cash flow statement) and rudimentary accounting concepts. A basic knowledge of what financial statements are as well as the function and purpose of the income statement, balance sheet and cash flow statement will be essential. However, the book does explain every element of an LBO analysis, which necessarily involves explaining aspects of financial statements as this analysis relates to them.

This book assumes that the reader will be using MS Excel as their spreadsheet software for creating an LBO analysis. It therefore also assumes that the reader has a very basic working knowledge of Excel. The formulaic functions within MS Excel are explained in detail, but it is taken for granted that the user has some basic understanding of MS Excel as a tool that can be used for financial analysis.

PART I

# LEVERAGED BUYOUTS EXPLAINED

CHAPTER 1

# WHAT IS AN LBO?

If you're looking for a job or about to start a new job in investment banking or corporate finance you're probably going to have to know a thing or two about companies buying other companies. You may have picked up this book because you are just curious to know more about the workings of corporate finance and financial transactions. Well, you have come to the right place. But before we get started and dive into the makings of an LBO transaction, we first need to define what exactly an LBO is.

An LBO or leveraged buyout is, simply put, one company buying another company and using a large amount of debt to do it. That's it. So 'why all the fuss?' you might ask. Why does this type of transaction get set aside from other types of mergers and acquisitions? The answer lies in the inherent risks that go along with a transaction that is financed primarily with borrowed money.

> An LBO is, simply put, one company buying another company and using a large amount of debt to do it.

There are a few things that we need to recognize about the debt that is used in a leveraged buyout transaction. The first is that the debt used to acquire the target company is often secured by the assets of the target. In other words, a potential buyer does not necessarily need to possess the financial means to purchase a target company. Instead, the target company just needs to have enough available collateral, in the form of its assets, to allow an outside buyer to obtain debt financing (secured by the target's assets) to pay for the cost of the transaction. Debt financing can also be secured by the assets of the buyer, but naturally using someone else's assets as collateral is always considered more attractive than pledging one's own assets as security for debt financing.

The second point to mention about the debt is that it can come in the form of bonds or bank loans. In the case of bonds, this means that the debt is issued and typically sold to investors in the capital markets. There is a fixed coupon rate that the target company must pay to its creditors (i.e. the purchasers of the bonds), which is dictated under the terms of the bond at issuance. The high levels of debt associated with leveraged buyouts, relative to the amount of equity in the target company, often results in the bonds being rated as junk or below investment grade. As credit ratings are used to gauge the risk of default, it should come as no surprise that loading up a company with debt will naturally increase the risk of default – and the higher the risk, the higher the interest rate the market is going to demand for lending.

> Lending in an LBO is frequently syndicated amongst a group of banks in order to decrease the amount of lending exposure to any one borrower.

In the case of bank loans, financing comes directly from banks, rather than purchasers of bonds in the capital markets. The interest expense of bank loans is also often calculated as a variable rate. It is common for bank loans to charge the borrower an interest rate of LIBOR (defined below) plus an additional amount, termed *spread*, which is indicative of the risk associated with the borrower and the seniority of the loan in the case of default. (LIBOR is short for 'London Interbank Offered Rate' and is a daily rate that banks charge to borrow unsecured funds from each other for given periods of time.)

Another important aspect of bank loans is that the lending is frequently syndicated amongst a group of banks in order to decrease the amount of lending exposure to any one borrower. Using this strategy, banks are able to lend money while reducing the risk of bad loan write-downs by lending across a broader range of borrowers. For example, let's say we own a bank. We decide to call it Friends Bank because we have friendly rates. We have a couple of choices regarding lending options:

- **Option 1.** We can lend $100 million to ABC Co and charge an interest expense of LIBOR plus 3.5%.
- **Option 2.** We can lend ABC Co $10 million and get nine other banks to lend ABC Co the remaining $90 million. The rate of interest charged will still be LIBOR plus 3.5%.

As part of option 2, the other banks will also call Friends Bank when they have loans that they want to syndicate out as well. At Friends Bank, we will end up participating as a lender in nine other syndicated loans, which gives the bank a total of ten syndicated loan deals it participates in. All of the loans that we agree to participate in charge an interest rate of LIBOR plus 3.5%. Which option is more attractive?

If you said option number two, you are correct. Under both scenarios, the amount of money earned from interest income is theoretically the same. What makes option number 2 the better option is apparent under a default scenario. In option 1, if ABC Co is unable to pay back its loan, Friends Bank solely takes on all the losses associated with the bad loan. However, under option 2, losses are spread over the ten lending institutions and interest income is still coming in from the other nine borrowers that are current with their interest payments.

In general, bank loans are far more complicated and multi-faceted than bonds. There are several different kinds of bank loans, including term loans, revolving credit facilities, and payment in kind loans, but the important thing to realize is that bank loans can have floating interest rates and often times are syndicated amongst several lenders, whereas bonds are fixed-rate instruments that are sold in the capital markets.

CHAPTER 2

# LEVERAGED BUYOUTS: THE PURPOSE

Why do a leveraged buyout? Why would anyone go through the trouble? The answer is quite simple: money. The goal of any LBO transaction is to achieve higher returns on the initial equity investment of the investor. Leveraged buyouts are designed to enhance the returns attainable by equity investors; they do so by decreasing the size of the initial equity investment.

> The goal of any LBO transaction is to achieve higher returns on the initial equity investment of the investor.

For example, a company is purchased for $100 million with 100% equity and the company is streamlined over the course of a year and later sold for $110 million. The investor just made a 10% return on investment. (Let's ignore the time value of money for now.)

Alternatively, if the investors were able to get a secured loan on the company's assets for $90 million and made an initial equity investment of $10 million, they would still be able to purchase the $100 million company. They would have to pay interest expense on the loan, which happens to be 7% annually. After one year, the investors are able to sell the company for $110 million. With the proceeds from the sale of the company the investors do the following:

- pay down the $90 million loan
- pay $6.3 million in interest expense due.

After paying interest expense and paying back the loan, investors are left with approximately $13.7 million for themselves. That represents a return of about 37%, more than triple the return on equity of the 100% equity transaction!

The bottom line is that leveraged buyouts are about achieving greater returns on equity for investors.

While levered transactions present several advantages to investors, at the same time they bring significant risks. It is the ability of corporations to execute restructuring plans (post LBO) that determine whether a company can sufficiently handle the interest burden taken on as a result of the leveraged buyout and drive the earnings that determine whether greater returns on investment can be realized by investors.

## ADVANTAGES OF LEVERAGE

Given that the purpose of leveraged buyouts is to realize greater returns on investment, perhaps it would be useful to examine the several advantages that go hand in hand with leveraged transactions.

The advantages come in a number of diverse forms. Some advantages come in the form of the ability to close transactions while others come in the form of limiting losses. In the end the investor has to make a judgment call as to whether these advantages and the potential for returns are greater than the risks that are also taken on with every transaction.

### BIGGER IS POSSIBLE

One of the major advantages of leveraged buyouts is the smaller initial equity investment required to close a transaction. In our example $100 million transaction above, the investor would be required to put up the full $100 million to acquire the company. However, in the case of the leveraged buyout, the investor would only need to hand over $10 million dollars to get the deal done. The other $90 million, we are assuming, could be obtained in the form of a loan secured by the assets of the company being taken over. (We are assuming the company has limited debt prior to any transaction.)

The point is, if the investor did not have $100 million dollars, without leverage the investment would have been out of reach. Leverage allows the transaction to close with only a fraction of the upfront equity commitment. Now an investor can be the proud owner of a $100 million dollar company, even if he only has the ability to invest $10 million.

Alternatively, let's say that the investor does have the $100 million. Rather than tie up the entire $100 million in this one investment, she may want to invest in several different investment opportunities. Using leverage allows her to do that. Our rich investor may wish to invest $10 million in our example opportunity as well as invest in nine other $10 million opportunities. By using leverage, our savvy investor has invested the entire $100 million dollars, but has diversified her risk across several different investments.

## LIMITED LOSSES

One of the beauties of equity investing is that you can only lose what you put in. The same truth applies with most leveraged buyouts. One of the main advantages for investors is the limited losses that accompany buying a company mainly with debt secured by the assets of that same company. You can substitute the word 'debt' in this case with 'Other People's Money'.

When an investor is required to commit just 10% of the capital required to purchase a company, it is significantly less than that of the 100% pure equity investor. The potential losses and therefore risk of the pure equity investor are far greater than those of the LBO equity investor. The levered investor has much less capital at risk should the acquired company not succeed. In the case of failure (or bankruptcy), the levered equity investor would almost certainly lose their entire investment, but that would most likely pale in comparison to the total losses realized by a 100% equity investor.

One of the main advantages for investors is the limited losses that accompany buying a company mainly with debt secured by the assets of that same company.

## REDUCED TAXES

Depending on where on the globe you transact, interest expense may be tax deductible. So, while it would be great if money could be borrowed for free and used for LBOs, the consolation is that the tax burden can be reduced based on realized interest expense.

# RISKS OF LEVERAGE

For all of its advantages, leverage comes with risk. While it is possible to breakdown the various advantages of leverage into different descriptions the risk of leverage is singular in nature. The risk of leverage is greater default risk.

When times are good and a company is producing earnings to pay its suppliers, employees and officers, leverage is a beautiful thing. However, in times of trouble, when the company is not generating profits, leverage can be a death blow that does not allow a company to get itself back on its feet. Even in times of trouble, interest payments are still required on top of the regular operating expenses that come with operating a company.

For all of its advantages, leverage comes with risk. The risk of leverage is greater default risk.

The creditors have prepared for the day of failure since before the original credit agreements were signed. In the case of a failing business (or bankruptcy), the creditors stand in line ahead of the equity partners to get their money back. Only after all the creditors get their money back is there any chance of equity investors recouping their investment capital and usually by that time there is nothing left to recoup.

If a company were to not have any debt, but were to fall on tough financial times, the outcome would be somewhat different. The biggest difference would be that there would be less chance of bankruptcy. (We are presuming that there are no unsecured creditors like employees or vendors that have supplied goods or services without being paid.) The company could sell any assets it has on its balance sheet. From the proceeds of the asset sale, the equity partners of the company could keep all the money and help stave off bankruptcy.

Leverage comes with the risk not being able to meet the interest expense obligation. In good times, leverage seems like a wonderful idea. It allows a company to get the most out of the assets on its balance sheet and assists the growth of the company. However, in bad times, the interest burden can weigh on the company so greatly that it becomes a weight around the company's proverbial neck and sinks the company in an ocean of debt.

# OUTCOMES

Given what we now know about the advantages and risk associated with leveraged buyouts, let's take a look at a simple example on how a transaction can potentially unfold, for better and then for worse.

In our example we have an investor that has identified a target company for a leveraged takeover. The target company produces essential engine parts for trains and has been doing so, profitably, for nearly 90 years. The target company has very little debt on its balance sheet and strong, steady cash flows. The company has been family owned since its inception and the family is looking to sell 100% of the company.

After conducting his due diligence and analysis the investor calculates a value range for the target company. The analysis, which we will cover in detail later, includes: 1) the market pricing for similar companies as a multiple of EBITDA (Earnings Before Interest Depreciation and Amortization), 2) purchase pricing in previous acquisitions of similar companies, as well as, 3) a discounted cash flow analysis – which also relies on multiples of earnings to derive the implied enterprise value of the company.

The investor carefully analyzes the impact of the target company taking on additional debt and its ability meet the interest payments over a decided time period. From this analysis the investor gains a measure of comfort in the target company's ability to continue to generate earnings, service the debt, and eventually provide a satisfactory return on investment.

Based on his analysis and research, the investor decides to put forth an offer to the current owners of the company. The bid is accepted and the purchase transaction closes successfully at a price of $100 million.

## POSITIVE OUTCOME

Now that the leveraged buyout transaction has been completed the hard work begins for those tasked with the job of running the business and ultimately generating earnings. Business managers will focus on operating efficiency and try to identify areas within the company where unnecessary costs can be reduced. They will also try to identify additional revenue-generating opportunities.

The economy continues to grow and businesses are shipping goods by train as much as ever. The company experiences growth in demand for its train engine parts by 5% every year for the next five years. Under these circumstances, the company is able to meet is regular interest payments and realize a return on equity.

As time goes on, the company continues its profitable ways, steadily paying down debt and using its profits to expand operations, which will result in greater revenues and ultimately profits down the road. The company also increases the dividends paid out to owners.

Five years after the original acquisition of the company, our investor decides that he is ready to sell the company. At this point, significant value has been created within the company. Business operations have expanded, and with it, revenue and earnings have also increased. The firm has generated significant positive cash flows that have been used to expand the business and pay the owners, in the form of dividends.

Using the same methodology that was used to value the purchase of the company, the investor is now selling the company at a price that will result in a handsome return on investment. With a large portion of the debt now paid down and turned into equity, our investor is selling a considerably larger portion of the company as equity than he actually bought on the day of purchase. That coupled with the fact that earnings have also grown over the past five years contributes to the returns that the investor expects to realize.

> Five years later, if a large portion of the debt is paid down and turned into equity, an investor can sell a considerably larger portion of the company as equity than he actually bought on the day of purchase.

In the end, our investor identifies a buyer that is willing to purchase the company at the same multiple of EBITDA he purchased the company at. It doesn't sound very exciting at first, but the key facts are that the company's EBITDA has grown 30% over the past five years and while our investor only put up 10% of the purchase price in the form of an initial equity investment, his equity share now accounts for 40% of the company's capital structure. The short summary of this positive outcome is that our investor has made *a lot* of money on this deal by increasing the company's earnings (EBITDA), paying down debt and amassing a larger portion of shareholders' equity in the firm over time.

## NEGATIVE OUTCOME

Now that the leveraged buyout transaction has been completed the hard work begins for those tasked with the job of running the business and ultimately generating earnings. Business managers will focus on operating efficiency and try to identify areas within the company where unnecessary costs can be reduced. They will also try to identify additional revenue-generating opportunities.

> Faced with a bleak economic horizon, and all of its available cash paying down large interest expenses, a company can find itself in serious trouble.

The greater economy stalls and businesses are not shipping as many goods as they do under normal economic circumstances. The weakening demand for new trains and less expensive alternatives from overseas result in significantly weaker demand for the company's engine parts. Revenues decrease on average by 5%, annually, over the next five years.

The company's cash flow and earnings shrink with the decreasing revenue. The company is faced with difficult decisions – whether, for instance, to make certain capital expenditures, and whether or not to lay off staff. The company is now feeling the weight of the debt burden. All of the company's available cash is going towards paying the large interest expense. Eventually, available cash runs out, the company misses a payment and defaults on its debt.

Faced with a bleak economic horizon and stiff, less expensive competition overseas, the company decides to file for Chapter 7 bankruptcy and is liquidated through the sale of its assets. The lenders are first in line to receive any proceeds from the sale of the company's assets. The company made few capital investments due to economic uncertainty and many of the large corporate assets such as plant property and equipment have approached the end of their useful lives, which translates into the assets fetching very little at the time of sale in bankruptcy. The lenders recoup a portion of the debt they extended the company in the leveraged transaction and the equity investor is wiped out of his original 10% equity investment.