TUCK SCHOOL OF BUSINESS AT DARTMOUTH

CENTER FOR
PRIVATE EQUITY
AND ENTREPRENEURSHIP

Note on Leveraged Buyouts

Introduction

A leveraged buyout, or LBO, is an acquisition of a company or division of another company financed with a substantial portion of borrowed funds. In the 1980s, LBO firms and their professionals were the focus of considerable attention, not all of it favorable. LBO activity accelerated throughout the 1980s, starting from a basis of four deals with an aggregate value of $1.7 billion in 1980 and reaching its peak in 1988, when 410 buyouts were completed with an aggregate value of $188 billion[1].

In the years since 1988, downturns in the business cycle, the near-collapse of the junk bond market, and diminished structural advantages all contributed to dramatic changes in the LBO market. In addition, LBO fund raising has accelerated dramatically. From 1980 to 1988 LBO funds raised approximately $46 billion; from 1988 to 2000, LBO funds raised over $385 billion[2]. As increasing amounts of capital competed for the same number of deals, it became increasingly difficult for LBO firms to acquire businesses at attractive prices. In addition, senior lenders have become increasingly wary of highly levered transactions, forcing LBO firms to contribute higher levels of equity. In 1988 the average equity contribution to leveraged buyouts was 9.7%. In 2000 the average equity contribution to leveraged buyouts was almost 38%, and for the first three quarters of 2001 average equity contributions were above 40%[3].

These developments have made generating target returns (usually 25 to 30%) much more difficult for LBO firms. Where once they could rely on leverage to generate returns, LBO firms today are seeking to build value in acquired companies by improving profitability, pursuing growth including roll-up strategies (in which an acquired company serves as a "platform" for additional acquisitions of related businesses to achieve critical mass and generate economies of scale), and improving corporate governance to better align management incentives with those of shareholders.

History of the LBO

While it is unclear when the first leveraged buyout was carried out, it is generally agreed that the first early leveraged buyouts were carried out in the years following World War II. Prior to the 1980s, the leveraged buyout (previously known as a "bootstrap" acquisition) was for years little more than an obscure financing technique.

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In the years following the end of World War II the Great Depression was still relatively fresh in the minds of America's corporate leaders, who considered it wise to keep corporate debt ratios low. As a result, for the first three decades following World War II, very few American companies relied on debt as a significant source of funding. At the same time, American business became caught up in a wave of conglomerate building that began in the early 1960s. Executives filled boards of directors with subordinates and friendly "outsiders"[4] and engaged in rampant empire building. The ranks of middle management swelled and corporate profitability began to slide. It was in this environment that the modern LBO was born.

In the late 1970s and early 1980s, newly formed firms such as Kohlberg Kravis Roberts and Thomas H. Lee Company saw an opportunity to profit from inefficient and undervalued corporate assets. Many public companies were trading at a discount to net asset value, and many early leveraged buyouts were motivated by profits available from buying entire companies, breaking them up and selling off the pieces. This "bust-up" approach was largely responsible for the eventual media backlash against the greed of so-called "corporate raiders", illustrated by books such as *The Rain on Macy's Parade* and films such as *Wall Street* and *Barbarians at the Gate*, based on the book by the same name.

As a new generation of managers began to take over American companies in the late 1970s, many were willing to consider debt financing as a viable alternative for financing operations. Soon LBO firms' constant pitching began to convince some of the merits of debt-financed buyouts of their businesses. From a manager's perspective, leveraged buyouts had a number of appealing characteristics:

- Tax advantages associated with debt financing,
- Freedom from the scrutiny of being a public company or a captive division of a larger parent,
- The ability for founders to take advantage of a liquidity event without ceding operational influence or sacrificing continued day-to-day involvement, and
- The opportunity for managers to become owners of a significant percentage of a firm's equity.

The Theory of the Leveraged Buyout

While every leveraged buyout is unique with respect to its specific capital structure, the one common element of a leveraged buyout is the use of financial leverage to complete the acquisition of a target company. In an LBO, the private equity firm acquiring the target company will finance the acquisition with a combination of debt and equity, much like an individual buying a house with a mortgage. Just as a mortgage is secured by the value of the house being purchased, some portion of the debt incurred in an LBO is secured by the assets of the acquired business. Unlike a house, however, the bought-out business generates cash flows which are used to service the debt incurred in its buyout – in essence, the acquired company helps pay for itself (hence the term "bootstrap" acquisition).

The use of significant amounts of debt to finance the acquisition of a company has a number of advantages, as well as risks. The most obvious risk associated with a leveraged buyout is that of financial distress. Unforeseen events such as recession, litigation, or changes in the regulatory environment can lead to difficulties meeting scheduled interest payments, technical default (the violation of the terms of a debt covenant) or outright liquidation. Weak management at the target company or misalignment of incentives between management and shareholders can also pose threats to the ultimate success of an LBO.

There are a number of advantages to the use of leverage in acquisitions. Large interest and principal payments can force management to improve performance and operating efficiency. This "discipline of debt" can force management to focus on certain initiatives such as divesting non-core businesses, downsizing, cost cutting or investing in technological upgrades that might otherwise be postponed or rejected outright. In this manner, the use of debt serves not just as a financing technique, but also as a tool to force changes in managerial behavior.

Another advantage of the leverage in LBO financing is that, as the debt ratio increases, the equity portion of the acquisition financing shrinks to a level at which a private equity firm can acquire a company by putting up anywhere from 20-40% of the total purchase price. Private equity firms typically invest alongside management, encouraging (if not requiring) top executives to commit a significant portion of their personal net worth to the deal. By requiring the target's management team to invest in the acquisition, the private equity firm guarantees that management's incentives will be aligned with their own.

Mechanics

To illustrate the mechanics of a leveraged buyout we will look at an LBO of Target Company. Exhibit 1 lays out operating and transaction assumptions for a leveraged buyout of Target Company, as well as a rudimentary set of financial projections and a summary of Target's post-LBO capitalization. Exhibit 1 should be largely self-explanatory, with the possible exception of a few line items:

Transaction Fee Amortization: This line item reflects the capitalization and amortization of financing, legal, and accounting fees associated with the transaction. Transaction fee amortization, like depreciation, is a tax-deductible non-cash expense. In most cases the allowable amortization period for such fees is five to seven years (although in some cases LBO firms may choose to expense all such fees in year one so as to present the "cleanest" set of numbers possible going forward).

Interest Expense: For simplicity, interest expense for each tranche of debt financing is calculated based upon the yearly beginning balance of each tranche. In reality, interest payments are often made quarterly, so interest expense in the case of the Target LBO may be slightly overstated.

Capitalization: Most leveraged buyouts make use of multiple tranches of debt to finance the transaction. Looking at the sources and uses of funds of funds in exhibit 1 it can be seen that the LBO of Target is financed with only two tranches of debt, senior and junior. In reality, a large leveraged buyout will likely be financed with multiple tranches of debt that could include (in decreasing order of seniority) some or all of the following:

- A **revolving credit facility ("revolver")** is a source of funds that the bought-out firm can draw upon as its working capital needs dictate. A revolving credit facility is designed to offer the bought-out firm some flexibility with respect to its capital needs – it serves as a line of credit that allows the firm to make certain capital investments, deal with unforeseen costs, or cover increases in working capital without having to seek additional debt or equity financing.
- **Bank debt**, which is often secured by the assets of the bought-out firm, is the most senior claim against the cash flows of the business. As such, bank debt is repaid first, with its interest and principal payments taking precedence over other, junior sources of debt financing.
- **Mezzanine debt**, so named because it exists in the middle of the capital structure, is junior to the bank debt incurred in financing the leveraged buyout. As a result, mezzanine debt (like each succeeding level of junior debt) is compensated for its lower priority with a higher interest rate.
- **Subordinated or High-Yield Notes** are what are commonly referred to as junk bonds. Usually sold to the public, these notes are the most junior source of debt financing and as such command the highest interest rates to compensate holders for their increased risk exposure.

Each tranche of debt financing will likely have different maturities and repayment terms. For example, some sources of financing require mandatory amortization of principal in addition to scheduled interest payments. Some lenders may receive warrants, which allow lenders to participate in the equity upside in the event the deal is highly successful. There are a number of ways private equity firms can adjust the target's capital structure. The ability to be creative in structuring and financing a leveraged buyout allows private equity firms to adjust to changing market conditions.

In addition to the debt financing component of an LBO, there is also an equity component.

- Private equity firms typically invest alongside management to ensure the alignment of management and shareholder interests. In large LBOs, private equity firms will sometimes team up to create a consortium of buyers, thereby reducing the amount of capital exposed to any one investment. As a general rule, private equity firms will own 70-90% of the **common equity** of the bought-out firm, with the remainder held by management and former shareholders.
- Another potential source of financing for leveraged buyouts is **preferred equity**. Preferred equity is often attractive because its dividend interest payments represent a minimum return on investment while its equity ownership component allows holders to participate in any equity upside. Preferred interest is often structured as pay-in-kind, or PIK, dividends, which means any interest is paid in the form of additional shares of preferred stock. LBO firms will often structure their equity investment in the form of preferred stock, with management and employees receiving common stock.

Cash Sweep: A cash sweep is simply a provision of certain debt covenants that stipulates that any excess cash (namely free cash flow available after mandatory amortization payments have been made) generated by the bought-out business will be used to pay down principal. For those tranches of debt with provisions for a cash sweep, excess cash is used to pay down debt in the

order of seniority. For example, in the case of Target the cash sweep does not begin to pay down Junior Debt until Year 4.

Exit Scenario: As a general rule, leveraged buyout firms seek to exit their investments in 5 to 7 years. An exit usually involves either a sale of the portfolio company, an IPO or a recapitalization (effectively an acquisition and relevering of the company by another LBO firm). Exhibit 2 describes returns to an LBO investor in a sale of a portfolio company at various EBITDA multiples (companies are often valued based upon a multiple of Earnings Before Interest, Taxes, Depreciation and Amortization, or EBITDA).

Buyout Firm Structure and Organization

The equity that LBO firms invest in an acquisition comes from a fund of committed capital that has been raised from a pool of "qualified" investors (defined by the SEC as (i) an individual with net worth, or joint net worth with spouse, over $1 million, or (ii) an individual with income over $200,000 in each of the two most recent years or joint income with spouse exceeding $300,000 for those years and a reasonable expectation of the same income level in the current year). These funds are structured as limited partnerships, with the firm's principals acting as general partner and investors in the fund (usually investment funds, insurance companies, pension funds and wealthy individuals) acting as limited partners. The general partner is responsible for making all investment decisions relating to the fund, with the limited partners responsible for transferring committed capital to the fund upon notice of the general partner.

As a general rule, funds raised by private equity firms have a number of fairly standard provisions:

Minimum Commitment: Prospective limited partners are required to commit a minimum amount of equity. Limited partners make a capital commitment, which is then drawn down (a "takedown" or "capital call") by the general partner in order to make investments with the fund's equity.

Investment or Commitment Period: During the term of the commitment period, limited partners are obligated to meet capital calls upon notice by the general partner by transferring capital to the fund within an agreed-upon period of time (often 10 days). The term of the commitment period usually lasts for either five or six years after the closing of the fund or until 75 to 100% of the fund's capital has been invested, whichever comes first.

Term: The term of the partnership formed during the fund-raising process is usually ten to twelve years, the first half of which represents the commitment period (defined above), the second half of which is reserved for managing and exiting investments made during the commitment period.

Diversification: Most funds' partnership agreements stipulate that the partnership may not invest more than 25% of the fund's equity in any single investment.

The LBO firm generates revenue in three ways:

Carried Interest: Carried interest is a share of any profits generated by acquisitions made by the fund. Once all the partners have received an amount equal to their contributed capital any remaining profits are split between the general partner and the limited partners. Typically, the general partner's carried interest is 20% of any profits remaining once all the partners' capital has been returned, although some funds guarantee the limited partners a priority return of 8% on their committed capital before the general partner's carried interest begins to accrue.

Management Fees: LBO firms charge a management fee to cover overhead and expenses associated with identifying, evaluating and executing acquisitions by the fund. The management fee is intended to cover legal, accounting, and consulting fees associated with conducting due diligence on potential targets, as well as general overhead. Other fees, such as lenders' fees and investment banking fees are generally charged to the acquired company after the closing of a transaction. Management fees range from 0.75% to 3% of committed capital, although 2% is common. Management fees are often reduced after the end of the commitment period to reflect the lower costs of monitoring and harvesting investments.

Co-Investment: Executives and employees of the leveraged buyout firm may co-invest along with the partnership on any acquisition made by the fund, provided the terms of the investment are equal to those afforded to the partnership.

Exhibit 1 – LBO Structure

Assumptions	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Sales Growth	5.0%	5.0%	5.0%	5.0%	5.0%
COGS as % of Sales	60.0%	60.0%	60.0%	60.0%	60.0%
S,G&A as % of Sales	15.0%	15.0%	15.0%	15.0%	15.0%
Depreciation as % of Sales	5.5%	5.5%	5.5%	5.5%	5.5%
Transaction Fee Amortization (5 years)	$ 1.0	$ 1.0	$ 1.0	$ 1.0	$ 1.0
Tax Rate	35.0%	35.0%	35.0%	35.0%	35.0%
Cap. Ex. as % of Sales	5.5%	5.5%	5.5%	5.5%	5.5%
Inc. in WC as % of Inc. in Sales	7.0%	7.0%	7.0%	7.0%	7.0%

Uses of Funds		Sources of Funds	
Purchase Price	$ 200.0	Senior Debt (@ 9.0%)	45.0
Transaction Costs	5.0	Junior Debt (@ 13.0%)	100.0
		Equity	60.0
Total	$ 205.0		$ 205.0

Target Projections		**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Net Sales		170.0	178.5	187.4	196.8	206.6	217.0
COGS		102.0	107.1	112.5	118.1	124.0	130.2
S,G&A		25.5	26.8	28.1	29.5	31.0	32.5
Depreciation		9.4	9.8	10.3	10.8	11.4	11.9
Operating Income		33.1	34.8	36.5	38.4	40.3	42.3
Transaction Fee Amortization		-	1.0	1.0	1.0	1.0	1.0
EBIT		33.1	33.8	35.5	37.4	39.3	41.3
Interest Expense							
Senior Debt	9.0%		4.1	3.0	1.9	0.5	-
Junior Debt	13.0%		13.0	13.0	13.0	13.0	11.5
Total Interest Expense			17.1	16.0	14.9	13.5	11.5
Pre-tax Income			16.8	19.5	22.5	25.8	29.8
Income Taxes			5.9	6.8	7.9	9.0	10.4
Net Income			10.9	12.7	14.6	16.8	19.4
Free Cash Flow Calculation							
Net Income			10.9	12.7	14.6	16.8	19.4
Plus: Depreciation			9.8	10.3	10.8	11.4	11.9
Plus: Transaction Fee Amortization			1.0	1.0	1.0	1.0	1.0
Less: Capital Expenditures			(9.8)	(10.3)	(10.8)	(11.4)	(11.9)
Less: Increase in Working Capital			(0.6)	(0.6)	(0.7)	(0.7)	(0.7)
Free Cash Flow			11.3	13.1	15.0	17.1	19.6

Capitalization		**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
Senior Debt - Beginning Balance			45.0	33.7	20.6	5.7	-
Mandatory Amortization	$1.0		1.0	1.0	1.0	1.0	-
Cash Sweep			10.3	12.1	14.0	4.7	-
Senior Debt - Ending Balance		45.0	33.7	20.6	5.7	-	-
Junior Debt - Beginning Balance			100.0	100.0	100.0	100.0	88.6
Mandatory Amortization	$0.0		-	-	-	-	-
Cash Sweep			-	-	-	11.4	19.6
Junior Debt - Ending Balance		100.0	100.0	100.0	100.0	88.6	68.9
Senior Debt		45.0	33.7	20.6	5.7	-	-
Junior Debt		100.0	100.0	100.0	100.0	88.6	68.9
Equity		60.0	70.9	83.6	98.2	115.0	134.3
Total Capitalization		205.0	204.6	204.2	203.9	203.6	203.3
Senior Debt		22.0%	16.5%	10.1%	2.8%	0.0%	0.0%
Junior Debt		48.8%	48.9%	49.0%	49.0%	43.5%	33.9%
Equity		29.3%	34.7%	40.9%	48.2%	56.5%	66.1%

Exhibit 2 – LBO Return Calculations

Cash Flows to Common Equity			**Year 0**	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**
EBITDA			42.5	43.6	45.9	48.2	50.7	53.2
Total Debt			145.0	133.7	120.6	105.7	88.6	68.9
	Exit Multiple		Outflow	Inflows				
	5.5 x		(60.0)	106.2	131.6	159.4	190.0	223.9
	6.5 x		(60.0)	149.9	177.4	207.6	240.7	277.1
	7.5 x		(60.0)	193.5	223.3	255.8	291.4	330.4
Exit In:		**IRR**						
Year 1	5.5 x	77.1%	(60.0)	106.2				
	6.5 x	149.8%	(60.0)	149.9				
	7.5 x	222.5%	(60.0)	193.5				
Year 2	5.5 x	48.1%	(60.0)	-	131.6			
	6.5 x	72.0%	(60.0)	-	177.4			
	7.5 x	92.9%	(60.0)	-	223.3			
Year 3	5.5 x	38.5%	(60.0)	-	-	159.4		
	6.5 x	51.3%	(60.0)	-	-	207.6		
	7.5 x	62.2%	(60.0)	-	-	255.8		
Year 4	5.5 x	33.4%	(60.0)	-	-	-	190.0	
	6.5 x	41.5%	(60.0)	-	-	-	240.7	
	7.5 x	48.4%	(60.0)	-	-	-	291.4	
Year 5	5.5 x	30.1%	(60.0)	-	-	-	-	223.9
	6.5 x	35.8%	(60.0)	-	-	-	-	277.1
	7.5 x	40.7%	(60.0)	-	-	-	-	330.4

Sources:

[1] Securities Data Corporation
[2] Venture Economics
[3] S&P/Portfolio Management Data
[4] George P. Baker and George David Smith, *The New Financial Capitalists: Kohlberg Kravis Roberts and the Creation of Corporate Value*, (Cambridge: Cambridge University Press, 1998).