

LECTURE 4

Chapter 13

Asset / Equity Valuation

Different Measurements of Valuation

Net Book Value

The main features, of net book value, include:

- Net book value equals the total equity shown on the balance sheet derived from total assets minus total liabilities.
- It reflects total issued equity adjusted for the effect of historical retained earnings, dividend payments, and repurchase of stock.
- It is based on accounting conventions – generally accepted accounting principals (GAAP) which reflect the valuation of individual groups of assets, and, more influentially over time, the measurement of retained earnings derived from recording of individual revenues and expenses from income statement.

The main advantages and disadvantages of net book value as an analytical measurement are:

- Net book value is a historical accounting measurement, reflecting all of the weakness endemic in accrual accounting as a measurement of historical cash flows. Further, it does not measure the impact of value future cash flows.
- Net book value is nevertheless used extensively as a measurement of valuation. For example, certain types of companies are valued and analyzed by comparing market value to book value (e.g. banks and other financial institutions). This reflects the importance, which the market places on underlying value (primarily liquidation value) of the assets of the firm.
- Net book value, sometimes referred to as net worth or equity, is also an important measurement since it is the basis for most loan agreement financial covenants, and provides lenders with the requisite trigger in their agreements in the event of deterioration in book value below a certain point. For lenders, therefore, net book value is an important measurement of value.

Market Value

Market Value has the advantage over Book Value because it starts to reflect not just historical earnings, but future earnings discounted back to value today.

Many factors contribute to the market value of a company and different types of buyers may use different formulas for determining the price they are willing to pay the company. Whatever formula one may use, almost everyone takes into account in some way other factors which may or may not be quantified, such as the market conditions, specific industry characteristics and firm specific issues/opportunities such as reputation of the current or past management. Each of these factors must be weighed for every company and in some cases one factor may weigh more heavily than all of the others combined.

There are a lot of methods of calculating the Market Value of a corporation, depending on if the firm is privately or publicly owned. This chapter will focus on four of the methods that are used today by bankers, Wall Street analysts, Mergers and Acquisitions specialists and Private Equity Firms. These methods are:

1. Using the Stock Market
2. Using EBITDA Multiples of comparable companies
3. Using Comparative Transactions
4. Using Discount Cash Flow Method

METHOD #1 - Using the Stock Price

Starwood Hotels & Resorts Worldwide Inc. (HOT)

General Information

Current Price	\$	48.50
Common Shares Outstanding		186,810
Market Capitalization (Equity Value)		\$9,060,285

Profitability

ROE %	4.00%
ROA%	0.83%

Expected HPR = E 9r = [E (d1

Dividend (d1)	\$0.41
P1 = P0+D	\$48.91
P0	\$ 48.50

Exp. HPR= 1.69%

Last Reported Performance (12/31/2009 (\$ 000's)

Revenues	4,712,000
EBITDA	959,000
Net Income	\$73,000
Dividends/Share	\$0.41
Book Value of Assets	\$8,761,000
Book Value of Equity	\$1,824,000

Valuation

P/E	119.04x
Price/Sales	1.89x
EV / EBITDA	12.44x

Using CAPM = k = Rf + Beta *

Risk Free =	2.50%
Beta =	2.16x
Premium=	8.00%

RoR = 19.8%

Dividend V0 = D1 / (k-g)

D1 =	\$0.41
k=	19.8%
g=	10%

V0= \$ 4.19

Intrinsic Value = V0 = [E(D1) /

D1=	\$0.41
P1=	\$48.91
k=	19.8%

V0= \$ 41.18

Calculations →

SP	SO	SP * SO = EQ	D	C	EQ + D - C = EV
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Company	Symbol	Stock Price (as of 4/5/10)	Stocks Outstanding (\$000)	Equity Value (\$000)	Debt (ST<) (\$000)	Cash (\$000)	Enterprise Value (\$000)
Starwood Hotels & Resorts	HOT	\$ 48.50	186,810	9,060,285	2,960,000	87,000	11,933,285

Starwood's Enterprise Value 11,933,285

METHOD #2 -Average EBITDA Industry Trading Multiples

Starwood Hotels & Resorts Worldwide Inc. (HOT)

SP	SO	SP * SO = EQ	D	C	EQ + D - C = EV	E	EV / E
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Company	Symbol	Stock Price (as of 4/5/10)	Stocks Outstanding (\$000)	Equity Value (\$000)	Debt (ST<) (\$000)	Cash (\$000)	Enterprise Value (\$000)	EBITDA (\$mm)	EBITDA Multiple	Beta
Choice Hotels International	CHH	\$ 34.78	59,710	2,076,714	277,700	57,870	2,296,544	161,500	14.22x	0.74x
Hyatt Hotels Corp (IPO price @ \$28.00)	H	\$ 39.17	173,880	6,810,880	852,000	1,380,000	6,282,880	318,000	19.76x	
Intercontinental Hotel	IHG	\$ 16.14	285,000	4,599,900	1,120,000	45,000	5,674,900	472,000	12.02x	1.56x
Marcus Corporation	MCS	\$ 13.37	29,900	399,763	232,450	9,890	622,323	68,850	9.04x	1.38x
Marriott International	MAR	\$ 32.68	358,520	11,716,434	2,300,000	115,000	13,901,434	836,000	16.63x	1.51x
Morgan Hotel Group	MHGC	\$ 6.89	29,930	206,218	748,010	68,990	885,238	40,239	22.00x	3.24x
Orient Express Hotels Ltd	OEH	\$ 14.94	90,800	1,356,098	832,020	72,150	2,115,968	70,459	30.03x	2.74x
Wyndham	WYN	\$ 26.62	178,820	4,760,206	3,570,000	155,000	8,175,206	834,000	9.80x	3.55x

Starwood Hotels & Resorts	HOT	\$ 48.50	186,810	9,060,285	2,960,000	87,000	11,933,285	959,000	12.44x	2.16x
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EBITDA * Average Multiple 959,000 13.58x

Average 16.22x 2.11x
Outliers 13.58x
(excluding OEH and MHGC)

Starwood's Enterprise Value 13,021,686

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METHOD #3 - Using Average EBITDA Transaction Multiples (M&A Comparable Method)

Starwood Hotels & Resorts Worldwide Inc. (HOT)

Calculations →

AP	SO	AP * SO = EQ	D	EQ + D = EV	E	EV / E
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Date Announcement	Target	Acquirer	Acquisition Price /Share	Shares Outstanding	Equity Value (\$mm)	Total Debt (\$mm)	Enterpised Value (EV)	EBITDA (last reported)	EBITDA Multiple
7/4/2007	Hilton Hotels	Blackstone Group	\$ 47.50	390,400,000	\$ 18,544.00	\$ 6,180.00	\$ 24,724.00	\$ 1,680.00	14.72x
11/6/2006	Four Seasons*	Kingtom Hotels Int'l / Gates' Cascade	\$ 82.00	33,078,000	\$ 3,300.00	\$ 278.68	\$ 3,578.68	\$ 112.18	31.90x
5/11/2006	Fairmont/Raffles	Kingtom Hotels Int'l	\$ 45.00	73,333,333	\$ 3,300.00	\$ 123.50	\$ 3,423.50	\$ 187.20	18.29x
1/10/2006	Hilton International	Hilton Hotels Corp.			\$ 5,578.00	\$ -	\$ 5,578.00	\$ 504.00	11.07x
11/14/2005	Starwood Hotels	Host Marriott					\$ 4,096.00	\$ 315.08	13.00x
10/24/2005	La-Quinta Corp		\$ 12.22	203	\$ 2,474.00	\$ 925.71	\$ 3,400.00	\$ 229.70	14.80x
8/16/2005	Wynham Int'l	Blackstone Group	\$ 1.15	172,053,000	\$ 197.86	\$ 2,681.96	\$ 2,879.82	\$ 275.18	10.47x
8/8/2005	John Q. Hammons Hotels	JQH Acquisition LLC	\$ 24.00	19,583	\$ 470.00	\$ 765.20	\$ 1,235.00	\$ 123.07	10.00x
07/22/2005	Societe du Louvre	Starwood Capital					\$ 1,028.90	\$ 91.05	11.30x
3/10/2005	Intercontinental Hotels	LRG					\$ 981.00	\$ 106.63	9.20x
12/10/2004	Boca Resorts	Blackstone Group	\$ 24.00	40,284,000	\$ 966.82	\$ 217.29	\$ 1,184.11	\$ 90.07	13.15x
8/18/2004	Prime Hospitality	Blackstone Group	\$ 12.25	44,808,000	\$ 548.90	\$ 243.60	\$ 792.50	\$ 55.12	14.38x
3/8/2004	Extended Stay	Blackstone Group	\$ 19.93	95,077,000	\$ 1,894.88	\$ 1,231.50	\$ 3,126.38	\$ 224.85	13.90x

* Four Seasons' \$112.18 million represents 2007 EBITDA (2005 EBITDA was \$11.4 negative)

EBITDA * Average Multiple	959,000	13.19x	Average	14.32x
			Adjust. Outlier	13.19x
Starwood's Enterprise Value	12,647,099			

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METHOD #4 - Discount Cash Flow Valuation Analysis

Starwood Hotels & Resorts Worldwide Inc. (HOT)

Discount Cash Flow Valuation Analysis	Projected Assumptions	Input Actual	year =					EXIT YEAR
		12/31/09	31-Dec-09	31-Dec-10	31-Dec-11	30-Dec-12	31-Dec-13	31-Dec-14
Revenues		4,712,000	4,429,280	4,473,573	4,607,780	4,792,091	4,983,775	5,183,126
Revenue Growth			-6.0%	1.0%	3.0%	4.0%	4.0%	4.0%
Cost of Revenues (CoGS)	70.0%	(3,684,000)	(3,100,496)	(3,131,501)	(3,225,446)	(3,354,464)	(3,488,642)	(3,628,188)
		78.2%						
Operating Expenses	10.0%	(314,000)	(443,093)	(447,524)	(460,949)	(479,387)	(498,563)	(518,505)
EBIT		714,000	885,691	894,548	921,384	958,240	996,569	1,036,432
			20.0%	20.0%	20.0%	20.0%	20.0%	20.0%
Less Taxes / % of EBIT	40.0%	-	(354,276)	(357,819)	(368,554)	(383,296)	(398,628)	(414,573)
Plus Depreciation	5.0%	245,000	221,464	223,679	230,389	239,605	249,189	259,156
Less Capex	7.0%	(196,000)	(310,050)	(313,150)	(322,545)	(335,446)	(348,864)	(362,819)
Cash Flow		763,000	442,829	447,258	460,675	479,102	498,266	518,197
EBITDA		959,000	1,107,155	1,118,227	1,151,773	1,197,844	1,245,758	1,295,589
Terminal Value	Assumptions							
EBITDA Multiple Method	13.58x		(EBITDA x EBITDA Multiple)					17,592,019
Perpetuity Method	10.00%		(Cash Flow / Discount Rate)					5,181,970
Average								11,386,995
Less Debt Outstanding (at Exit)								(2,233,000)
Plus Cash (at Exit)								-
Equity Value at Terminal								9,153,995
Equity Cash Flows			442,829	447,258	460,675	479,102	498,266	9,672,192
			x	x	x	x	x	x
PV Table			0.8341118	0.6957426	0.5803271	0.4840577	0.4037583	0.3367795
			=	=	=	=	=	=
PV (1) =	\$369,369							
PV (2) =	\$311,176							
PV (3) =	\$267,342							
PV (4) =	\$231,913							
PV (5) =	\$201,179							
PV (6) =	\$3,257,396							
PV =	\$4,638,376							
Enterprise Value = PV of Equity + PV of Debt								
PV of Equity =	\$4,638,376							
+ PV of Debt =	2,960,000							
+ PV of Cash =	(87,000)							
Starwood's Enterprise Value	7,598,376							
Cost of Equity Calc								
Risk Free Rate =	2.50%							
Premium based on MC =	8.05%							
Starwood Beta =	2.16x							
Expected Equity Return =	19.9%							

STARWOOD HOTELS & RESORTS

	EV	Debt	Cash	Eq Value	Shares Outs	Stock Price
Method #1 - Current Market Price	11,933,285	2,960,000	87,000	9,060,285	186,810	\$ 48.50
Intrinsic Value Method						\$ 41.18
Method #2	13,021,686	2,960,000	87,000	10,148,686	186,810	\$ 54.33
Method #3	12,647,099	2,960,000	87,000	9,774,099	186,810	\$ 52.32
Method #4	7,598,376	2,960,000	87,000	4,725,376	186,810	\$ 25.30
Average of other methods	11,300,111	2,960,000	87,000	8,427,111		\$ 44.32