



# SESSION 19: A DETOUR INTO ASSET BASED VALUATION

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# What is asset based valuation?

- In intrinsic valuation, you value a business based upon the cash flows you expect that business to generate over time.
- In relative valuation, you value a business based upon how similar businesses are priced.
- In asset based valuation, you value a business by valuing its individual assets. These individual assets can be tangible or intangible.

# Why would you do asset based valuation?

- Liquidation: If you are liquidating a business by selling its assets piece meal, rather than as a composite business, you would like to estimate what you will get from each asset or asset class individually.
- Accounting mission: As both US and international accounting standards have turned to “fair value” accounting, accountants have been called upon to redo balance sheet to reflect the assets at their fair rather than book value.
- Sum of the parts: If a business is made up of individual divisions or assets, you may want to value these parts individually for one of two groups:
  - Potential acquirers may want to do this, as a precursor to restructuring the business.
  - Investors may be interested because a business that is selling for less than the sum of its parts may be “cheap”.

# How do you do asset based valuation?

- Intrinsic value: Estimate the expected cash flows on each asset or asset class, discount back at a risk adjusted discount rate and arrive at an intrinsic value for each asset.
- Relative value: Look for similar assets that have sold in the recent past and estimate a value for each asset in the business.
- Accounting value: You could use the book value of the asset as a proxy for the estimated value of the asset.

# When is asset-based valuation easiest to do?

- Separable assets: If a company is a collection of separable assets (a set of real estate holdings, a holding company of different independent businesses), asset-based valuation is easier to do. If the assets are interrelated or difficult to separate, asset-based valuation becomes problematic. Thus, while real estate or a long term licensing/franchising contract may be easily valued, brand name (which cuts across assets) is more difficult to value separately.
- Stand alone earnings/ cash flows: An asset is much simpler to value if you can trace its earnings/cash flows to it. It is much more difficult to value when the business generates earnings, but the role of individual assets in generating these earnings cannot be isolated.
- Active market for similar assets: If you plan to do a relative valuation, it is easier if you can find an active market for “similar” assets which you can draw on for transactions prices.

# I. Liquidation Valuation

- In liquidation valuation, you are trying to assess how much you would get from selling the assets of the business today, rather than the business as a going concern.
- Consequently, it makes more sense to price those assets (i.e., do relative valuation) than it is to value them (do intrinsic valuation). For assets that are separable and traded (example: real estate), pricing is easy to do. For assets that are not, you often see book value used either as a proxy for liquidation value or as a basis for estimating liquidation value.
- To the extent that the liquidation is urgent, you may attach a discount to the estimated value.

## II. Accounting Valuation: Glimmers from FAS 157

- The ubiquitous “market participant”: Through FAS 157, accountants are asked to attach values to assets/liabilities that market participants would have been willing to pay/ receive.
- Tilt towards relative value: “The definition focuses on the price that would be received to sell the asset or paid to transfer the liability (an exit price), not the price that would be paid to acquire the asset or received to assume the liability (an entry price).” The hierarchy puts “market prices”, if available for an asset, at the top with intrinsic value being accepted only if market prices are not accessible.
- Split mission: While accounting fair value is titled towards relative valuation, accountants are also required to back their relative valuations with intrinsic valuations. Often, this leads to reverse engineering, where accountants arrive at values first and develop valuations later.

### III. Sum of the parts valuation

- You can value a company in pieces, using either relative or intrinsic valuation. Which one you use will depend on who you are and your motives for doing the sum of the parts valuation.
- If you are long term, passive investor in the company, your intent may be to find market mistakes that you hope will get corrected over time. If that is the case, you should do an intrinsic valuation of the individual assets.
- If you are an activist investor that plans to acquire the company or push for change, you should be more focused on relative valuation, since your intent is to get the company to split up and gain the increase in value.



Let's try this

## United Technologies: Raw Data - 2009

<i>Division</i>	<i>Business</i>	<i>Revenues</i>	<i>EBITDA</i>	<i>Pre-tax Operating Income</i>	<i>Capital Expenditures</i>	<i>Depreciation</i>	<i>Total Assets</i>
Carrier	Refrigeration systems	\$14,944	\$1,510	\$1,316	\$191	\$194	\$10,810
Pratt & Whitney	Defense	\$12,965	\$2,490	\$2,122	\$412	\$368	\$9,650
Otis	Construction	\$12,949	\$2,680	\$2,477	\$150	\$203	\$7,731
UTC Fire & Security	Security	\$6,462	\$780	\$542	\$95	\$238	\$10,022
Hamilton Sundstrand	Manufacturing	\$6,207	\$1,277	\$1,099	\$141	\$178	\$8,648
Sikorsky	Aircraft	\$5,368	\$540	\$478	\$165	\$62	\$3,985

*The company also had corporate expenses, unallocated to the divisions of \$408 million in the most recent year.*

# United Technologies: Relative Valuation

## A Simple Calculation

<i>Division</i>	<i>Business</i>	<i>EBITDA</i>	<i>EV/EBITDA for sector</i>	<i>Value of Business</i>
Carrier	Refrigeration systems	\$1,510	5.25	\$7,928
Pratt & Whitney	Defense	\$2,490	8.00	\$19,920
Otis	Construction	\$2,680	6.00	\$16,080
UTC Fire & Security	Security	\$780	7.50	\$5,850
Hamilton Sundstrand	Industrial Products	\$1,277	5.50	\$7,024
Sikorsky	Aircraft	\$540	9.00	\$4,860
Sum of the parts value for business =				\$61,661

# United Technologies: Relative Valuation

## A “better” valuation?

Division	Scaling Variable	Current value for scaling variable	ROC	Operating Margin	Tax Rate	Predicted Multiple	Estimated Value
Carrier	EBITDA	\$1,510	13.57%	8.81%	38%	$5.35 - 3.55 (.38) + 14.17$ $(.1357) = 5.92$	\$8,944.47
Pratt & Whitney	Revenues	\$12,965	24.51%	16.37%	38%	$0.85 + 7.32 (.1637) = 2.05$	\$26,553.29
Otis	EBITDA	\$2,680	35.71%	19.13%	38%	$3.17 - 2.87 (.38) + 14.66$ $(.3571) = 7.31$	\$19,601.70
UTC Fire & Security	Capital	\$5,575	6.03%	8.39%	38%	$0.55 + 8.22 (.0603) = 1.05$	\$5,828.76
Hamilton Sundstrand	Revenues	\$6,207	14.16%	17.71%	38%	$0.51 + 6.13 (.1771) = 1.59$	\$9,902.44
Sikorsky	Capital	\$2,217	13.37%	8.90%	38%	$0.65 + 6.98 (.1337) = 1.58$	\$3,509.61
Sum of the parts value for operating assets =							\$74,230.37

# United Technologies, DCF valuation

## Growth Choices

<i>Division</i>	<i>Cost of capital</i>	<i>Return on capital</i>	<i>Reinvestment Rate</i>	<i>Expected growth</i>	<i>Length of growth period</i>	<i>Stable growth rate</i>	<i>Stable ROC</i>
Carrier	7.84%	13.57%	43.28%	5.87%	5	3%	7.84%
Pratt & Whitney	7.72%	24.51%	57.90%	14.19%	5	3%	12.00%
Otis	9.94%	35.71%	18.06%	6.45%	5	3%	14.00%
UTC Fire & Security	6.78%	6.03%	52.27%	3.15%	0	3%	6.78%
Hamilton Sundstrand	9.06%	14.16%	38.26%	5.42%	5	3%	9.06%
Sikorsky	9.82%	13.37%	102.95%	13.76%	5	3%	9.82%

# United Technologies, DCF valuation

## Values of the parts

<i>Business</i>	<i>Cost of capital</i>	<i>PV of FCFF</i>	<i>PV of Terminal Value</i>	<i>Value of Operating Assets</i>
Carrier	7.84%	\$2,190	\$9,498	\$11,688
Pratt & Whitney	7.72%	\$3,310	\$27,989	\$31,299
Otis	9.94%	\$5,717	\$14,798	\$20,515
UTC Fire & Security	6.78%	\$0	\$4,953	\$4,953
Hamilton Sundstrand	9.06%	\$1,902	\$6,343	\$8,245
Sikorsky	9.82%	-\$49	\$3,598	\$3,550
<i>Sum</i>				\$80,250

# United Technologies, DCF valuation

## Sum of the Parts

- Value of the parts = \$80,250
- Value of corporate expenses =  $\frac{\text{Corporate Expenses Current} (1 - t)(1 + g)}{(\text{Cost of capital}_{\text{Company}} - g)} = \frac{408(1 - .38)(1.03)}{(.0868 - .03)} = \$ 4,587$
- Value of operating assets (sum of parts DCF) = \$75,663
- Value of operating assets (sum of parts RV) = \$74,230
- Value of operating assets (company DCF) = \$71,410
- Enterprise value (based on market prices) = \$52,261