Access the Rest of the Fundamentals Course

Financial Modeling Fundamentals Module 6: Equity Value, Enterprise Value, and Valuation Metrics and Multiples – Key Metrics and Multiples

Table of Contents:

Key Rule #8: Valuation Metrics: EBIT vs. EBITDA vs. Net Income 2
Key Rule #9: Different Types of Free Cash Flow 8
Key Rule #10: Other Metrics and Multiples 15

Key Rule #8: Valuation Metrics: EBIT vs. EBITDA vs. Net Income

EBIT, EBITDA, and Net Income are some of the most common **valuation metrics**.

And you use them to create 3 of the most common **valuation multiples:** EV / EBIT, EV / EBITDA, and P / E.

You should already know what these metrics mean from the accounting lessons and guides, but in the context of valuation, you can think of them as **attributes of a property**.

We mentioned that EV / EBITDA is like a "per-square-foot" value for a property; by that analogy, EBITDA is like **the number of square feet**.

EBITDA, EBIT, and Net Income all measure a company's **profitability**, and the corresponding multiples measure a company's **value in relation to its profits**.

These metrics differ in **4 key respects:**

1) **To Whom is the Money is Available?** – Equity investors, Debt investors, and the government? Just Equity investors? Someone else?

2) **Operating Expenses vs. Capital Expenditures (CapEx)** – Some metrics reflect the impact of both of these, whereas others reflect only Operating Expenses and ignore spending on long-term Assets.

3) **Interest, Taxes, and Non-Core Business Activities** – Some metrics include these, and some exclude them.

4) **When They're Useful** – Sometimes you **WANT** to reflect the impact of CapEx, and sometimes you don't. The same applies to interest and taxes.

We'll explain these differences below and then give you a **summary chart**:

How to Calculate Each Metric

EBIT = Operating Income on the Income Statement.

EBITDA = Operating Income on the Income Statement + Depreciation & Amortization (from the CFS).

Net Income = Net Income on the Income Statement (and use Net Income to Common if there are Preferred Dividends).

Sometimes you'll adjust these metrics for non-recurring charges, but this concept isn't important for interviews.

EBIT corresponds to Enterprise Value (EV / EBIT is the multiple).

EBITDA corresponds to Enterprise Value (EV / EBITDA is the multiple).

Net Income corresponds to Equity Value (P / E is the multiple).

To Whom is the Money Available?

With EBIT and EBITDA, Equity investors, Debt investors, Preferred investors (if they exist), and the government all have claims.

This is because **no one has been "paid" yet** – a company's Operating Income is still available to *everyone* since it's above Interest Expense, Dividends of all types, and Taxes.

With Net Income (to Common), only Equity investors have a claim because Debt investors have been paid with interest, and the government has been paid with taxes. And Preferred Investors, if they exist, have been paid with Preferred Dividends.

What Does the Metric Mean?

EBIT = Core, recurring business *profitability*, before the impact of capital structure and taxes.

EBITDA = Proxy for core, recurring business *cash flow from operations*, before the impact of capital structure and taxes.

Net Income = Profit after taxes, the impact of capital structure (interest), AND non-core business activities.

Which Expenses Does the Metric Reflect?

EBIT reflects operating expenses and the *after-effects* of CapEx, but not CapEx directly (since Depreciation reduces Operating Income); it **EXCLUDES** interest, taxes, and non-core activities.

EBITDA is almost the same, but it does **NOT** include any after-effects from CapEx.

Net Income reflects everything – operating expenses, the after-effects of CapEx (because of the Depreciation on the Income Statement), interest, taxes, and non-core business activities.

For Which Type of Cash Flow Is This Metric a Proxy?

EBIT is *sometimes* closer to **Free Cash Flow** (Cash Flow from Operations – CapEx) because both metrics reflect some impact (or after-effect) from CapEx…

EBITDA is *sometimes* closer to **Cash Flow from Operations** because NEITHER one includes any impact or after-effect from CapEx…

And **Net Income** is not close to either one.

These "rules" rarely hold up in real life. Here's an example of why they don't work that well, using LinkedIn and Steel Dynamics' financial results from one year:

Summary of EBIT vs. EBITDA for Steel Dynamics and LinkedIn:

Steel Dynamics - EBIT (Operating Income):	$ 386.5	**Steel Dynamics - EBITDA:**	$ 617.8
Steel Dynamics - Cash Flow from Operations:	312.2	Steel Dynamics - Cash Flow from Operations:	312.2
Steel Dynamics - Free Cash Flow (CFO - CapEx):	125.3	Steel Dynamics - Free Cash Flow (CFO - CapEx):	125.3
LinkedIn - EBIT (Operating Income):	$ 47.8	**LinkedIn - EBITDA:**	$ 182.3
LinkedIn - Cash Flow from Operations:	436.5	LinkedIn - Cash Flow from Operations:	436.5
LinkedIn - Free Cash Flow (CFO - CapEx):	158.5	LinkedIn - Free Cash Flow (CFO - CapEx):	158.5

For Steel Dynamics, EBITDA is closer to Cash Flow from Operations, as you might expect, but *EBIT* is also closer to Cash Flow from Operations.

And then for LinkedIn, EBIT is closer to FCF, as you might expect, but *EBITDA* is *also* closer to FCF.

We get this strange behavior for a few reasons:

First, **Working Capital** is massively negative for Steel Dynamics, but very positive for LinkedIn.

Second, LinkedIn has a huge amount of **Stock-Based Compensation**, whereas Steel Dynamics has almost nothing – that alone will make cash flow-based metrics significantly different from EBIT and EBITDA.

Finally, Steel Dynamics is spending **very little** on CapEx, and its CapEx as a % of Revenue was *less than* LinkedIn's at this time.

So these guidelines are **rules of thumb**, not laws of nature.

Which Metric or Multiple Do You Use, and Why?

"Which multiple do you use?" is a common interview question, but it's based on a **false premise:** That you *have* to use one specific metric or multiple.

In reality, you always use a **variety** of metrics and multiples.

So you might look at EV / Revenue, EV / EBITDA, and P / E all for the same company.

If you visit the doctor in real life, she won't give you *just one* test.

She might give you a physical exam, a blood test, an X-ray, and other tests, and they all pinpoint different problems.

If you're pressed for an answer on the *specific* metric or multiple to use, **EBIT is better than EBITDA if you WANT to reflect the after-effects (or "impact") of Capital Expenditures**.

For example, if you're analyzing a company in an industry where CapEx significantly affects the company's value, such as airlines or manufacturing, EBIT might be more appropriate.

EBITDA might be better in an industry where CapEx matters less, such as software, Internet, services, or anything else where R&D spending drives value.

But it also depends on a company's maturity – CapEx tends to be more important for high-growth companies, while it is less important for mature, stable companies.

These guidelines get *very* subjective because you **might** still focus on EBITDA even if CapEx is a key value driver.

You might do that to "normalize" different companies and remove the after-effects of CapEx altogether.

For example, if one company is spending 15% of Revenue on CapEx, and another is spending 2%, and you want to **ignore that difference**, you might use EBITDA and EV / EBITDA.

Net Income and P / E multiples are generally not great to use for *any* company.

The problem is that Net Income is affected by different tax rates and capital structures, but it's also quite far away from cash flow-based metrics because it excludes Working Capital and the *full* impact of CapEx.

So Net Income and P / E give you something that's **less standardized** and **less useful** for comparing companies, and also something that's **not close to the real cash flow**.

Despite that, P / E remains popular because it is easy to understand and calculate.

For a simple example of how P / E multiples can be misleading, consider two companies that both have the same **Enterprise Value**: $500.

Company A is 100% Equity, so Equity Value = Enterprise Value = $500.

Company B is 60% Equity, so Equity Value = $300, Net Debt = $200, and Enterprise Value = $500.

Both companies have identical Income Statements, except Company B has Interest Expense associated with its Debt, and Company A does not.

Here's what the Income Statements and valuation multiples might look like:

Why P / E Multiples Can Be Misleading

Company A - Financial Snapshot:	Year 1	Year 2	Year 3
Equity Value:	$ 500		
Net Debt:	-		
Enterprise Value:	**$ 500**		
Tax Rate:	35%		
P / E:	17.1 x	16.7 x	15.4 x
EV / EBIT:	11.1 x	10.9 x	10.0 x
EV / EBITDA:	8.5 x	8.1 x	7.1 x

Company B - Financial Snapshot:	Year 1	Year 2	Year 3
Equity Value:	$ 300		
Net Debt:	200		
Enterprise Value:	**$ 500**		
Tax Rate:	35%		
P / E:	15.4 x	14.9 x	13.2 x
EV / EBIT:	11.1 x	10.9 x	10.0 x
EV / EBITDA:	8.5 x	8.1 x	7.1 x

Company A - Income Statement:	Year 1	Year 2	Year 3
Revenue:	$ 400	$ 450	$ 500
Revenue Growth:	*15%*	*13%*	*11%*
Costs of Goods Sold:	136	153	170
Gross Profit:	**264**	**297**	**330**
Gross Margin:	*66%*	*66%*	*66%*
Sales & Marketing:	80	90	100
General & Administrative:	60	70	75
Research & Development:	65	75	85
Depreciation & Amortization:	14	16	20
Total Operating Expenses:	**219**	**251**	**280**
Operating Income:	**45**	**46**	**50**
Operating Margin:	*11%*	*10%*	*10%*
Net Interest Expense:	-	-	-
Other Income / (Expense):	-	-	-
Pre-Tax Income:	**45**	**46**	**50**
Income Taxes:	(16)	(16)	(18)
Net Income:	**$ 29**	**$ 30**	**$ 33**

Company B - Income Statement:	Year 1	Year 2	Year 3
Revenue:	$ 400	$ 450	$ 500
Revenue Growth:	*15%*	*13%*	*11%*
Costs of Goods Sold:	136	153	170
Gross Profit:	**264**	**297**	**330**
Gross Margin:	*66%*	*66%*	*66%*
Sales & Marketing:	80	90	100
General & Administrative:	60	70	75
Research & Development:	65	75	85
Depreciation & Amortization:	14	16	20
Total Operating Expenses:	**219**	**251**	**280**
Operating Income:	**45**	**46**	**50**
Operating Margin:	*11%*	*10%*	*10%*
Net Interest Expense:	(15)	(15)	(15)
Other Income / (Expense):	-	-	-
Pre-Tax Income:	**30**	**31**	**35**
Income Taxes:	(11)	(11)	(12)
Net Income:	**$ 20**	**$ 20**	**$ 23**

Should Company B be trading at P / E multiples that are **10-15% lower** because it's using Debt?

The Debt vs. Equity mix does impact Cost of Equity and WACC, and therefore affects Enterprise Value and Equity Value, but there probably shouldn't be *this much* of an impact.

And that's the problem with relying on P / E multiples: They're affected by different capital structures, different tax rates, and non-core-business activities.

You still use them in some industries, such as commercial banking and insurance, but they are less useful than EV / EBIT and EV / EBITDA multiples.

	EBIT	EBITDA	Net Income
How do you calculate it?	Operating Income on Income Statement	Operating Income on Income Statement + D&A, *always* taken from the Cash Flow Statement	Net Income on Income Statement
Corresponds to...	Enterprise Value	Enterprise Value	Equity Value
Valuation Multiple:	EV / EBIT	EV / EBITDA	P / E (Market Cap / Net Income)
Who has a claim on this money?	Equity investors, debt investors, the government	Equity investors, debt investors, the government	Equity investors
What does it mean?	CORE, recurring business **profitability**, before the impact of capital structure and taxes	Proxy for core, recurring business **cash flow from operations**, before the impact of capital structure and taxes	Profit after taxes, the impact of capital structure (interest), AND non-core business activities
Reflects normal operating expenses?	Yes	Yes	Yes
Reflects impact of capital expenditures (CapEx)?	Yes	No	Yes
Reflects interest income and expense?	No	No	Yes
Reflects taxes?	No	No	Yes
Reflects non-core business activities?	No	No	Yes
***Can sometimes be* closer to...**	Free Cash Flow (Cash Flow from Operations - CapEx) - but only sometimes!	Cash Flow from Operations... but only sometimes!	Generally, no cash flow-based metric.
Use when...	CapEx is more important and/or company is spending a lot to grow quickly and/or you want to include the impact of CapEx	CapEx is smaller % of revenue, doesn't matter as much, and/or you want to normalize companies w/ very different CapEx and D&A standards	Well, try to avoid it if you can... sometimes still useful to look at and compare P/E multiples to others

Return to Top.

Key Rule #9: Different Types of Free Cash Flow

All company valuation comes down to that all-important formula:

Company Value = Cash Flow / (Discount Rate – Cash Flow Growth Rate)

So Cash Flow-based metrics and multiples must be the best, most relevant ones, right?

In theory, yes.

Interview questions on *how to calculate* Free Cash Flow, Unlevered Free Cash Flow, Levered Free Cash Flow, etc., are common.

And you need to know these metrics when completing a Discounted Cash Flow (DCF) analysis, when building leveraged buyout (LBO) models, and when estimating a company's ability to repay debt.

But these metrics are **NOT** as useful when you're **comparing** a company to its peers and valuing it using multiples.

One problem is that these metrics **take more time to calculate** because you can't just take Operating Income and add D&A; you need to project the entire Cash Flow Statement or a good chunk of it.

Another issue is that **the items included *within* these metrics vary a lot**. One company might have a huge add-back for Stock-Based Compensation, and another might have nothing; one company might have huge Deferred Taxes, and another might have nothing.

Finally, if a company uses the Direct Method of preparing its Cash Flow Statement, these metrics take even more time to calculate because you have to modify its CFS so that it starts with Net Income instead.

So these metrics are less ideal for *comparing* companies.

How to Calculate FCF and Its Variations

There are 3 major types of Free Cash Flow, and the idea is very similar for all of them:

How much discretionary cash flow does a company generate?

Most of the items on a company's Cash Flow Statement – everything in Cash Flow from Investing and Cash Flow from Financing – are optional, except for CapEx.

That's why you calculate "Free Cash Flow" by taking Cash Flow from Operations and subtracting CapEx: It tells you how much cash flow the company's core business is generating on a recurring, predictable basis.

But the problem is that FCF also takes into account the company's capital structure, and sometimes you don't want to do that.

Since FCF includes the Net Interest Expense (subtracted before the Net Income line) and Preferred Dividends (subtracted between Net Income and Net Income to Common), it's **only available to Equity investors**.

But you usually want to calculate the "Cash flow available to **ALL** investors," which means that you need to **exclude the Net Interest Expense** and the Preferred Dividends (and income and expenses from side activities).

To do this, you calculate **Unlevered Free Cash Flow** (AKA **Free Cash Flow to Firm**).

The best way to think of it is: "The cash flow available to **ALL** investors in the company."

And then there's **Levered Free Cash Flow**, which is similar to Free Cash Flow, but which subtracts out mandatory Debt principal repayments as well.

Levered FCF gives a slightly better estimate of how much cash flow is **available to *just* the Equity investors**.

Here's how you calculate all these metrics:

- **Free Cash Flow:** Cash Flow from Operations – CapEx.
- **Unlevered Free Cash Flow:** NOPAT + Non-Cash Adjustments and Changes in Working Capital from CFS – CapEx.
- **Levered Free Cash Flow:** Net Income + Non-Cash Adjustments and Changes in Working Capital from CFS – CapEx – (Mandatory?) Debt Repayments.

People disagree over how to calculate Levered FCF because some subtract *all* Debt principal repayments, some subtract only the *mandatory* repayments, and some factor in all Debt *issuances and repayments*.

This disagreement is one reason why we recommend **against** using Levered FCF.

You can calculate all these metrics in *many* different ways. For example, to calculate Unlevered FCF, you could do any of the following:

- **Method #1:** EBIT * (1 – Tax Rate) + Non-Cash Adjustments and Changes in Working Capital from CFS – CapEx.

- **Method #2:** (EBITDA – D&A) * (1 – Tax Rate) + Non-Cash Adjustments and Changes in Working Capital from CFS – CapEx.

- **Method #3:** CFO + (Net Interest Expense and Other Items Between Operating Income and Pre-Tax Income) * (1 – Tax Rate) – CapEx.

To illustrate these calculations, let's say that a company's Income Statement and Cash Flow Statement look like this:

Steel Dynamics - Income Statement:		
Total Net Sales:	$	7,372.9
Costs of Goods Sold:		6,653.8
Gross Profit:		**719.1**
Selling, General and Administrative Expenses:		272.8
Profit Sharing:		27.8
Amortization of Intangible Assets:		31.8
Impairment Charges:		0.3
Operating Income:		**386.5**
Interest Expense, Net of Capitalized Interest:		127.7
Other (Income) Expense, Net:		(4.0)
Income Before Income Taxes:		**262.8**
Income Taxes:		99.3
Net Income:		**163.5**
Net Loss Attributable to Noncontrolling Interests:		26.0
Net Income Attributable To Steel Dynamics, Inc.:	**$**	**189.5**

Steel Dynamics - Cash Flow Statement:		
Operating Activities:		
Net Income:	**$**	**163.5**
Adjustments To Reconcile Net Income To Net Cash Provided By Operating Activities:		
Depreciation And Amortization:		230.9
Impairment Charges:		0.3
Equity-Based Compensation:		15.5
Deferred Income Taxes:		30.7
(Gain) / Loss on Disposal of PP&E:		1.1
Changes In Certain Assets and Liabilities:		
Accounts Receivable:		(78.2)
Inventories:		(108.0)
Other Assets:		13.7
Accounts Payable:		40.1
Income Taxes Receivable/Payable:		(12.5)
Accrued Expenses:		15.0
Net Cash Provided By Operating Activities:		**312.2**
Investing Activities:		
Purchases of PP&E (CapEx):		(186.8)
Proceeds / Maturities of Commercial Paper:		31.5
Other Investing Activities:		2.5
Net Cash Used In Investing Activities:		**(152.8)**
Financing Activities:		
Issuance of Current and Long-Term Debt:		424.0
Repayments of Current and Long-Term Debt:		(518.0)
Proceeds from Exercise of Stock Options:		37.5
Contributions from Noncontrolling Investors:		17.9
Distributions to Noncontrolling Investor:		(0.4)
Dividends Paid:		(94.8)
Debt Issuance Costs:		(6.2)
Net Cash Provided By (Used In) Financing Activities:		**(140.1)**
Increase (Decrease) in Cash & Equivalents:		**19.2**
Cash & Equivalents at Beginning of Year:		375.9
Cash & Equivalents at End of Year:	**$**	**395.2**

You would calculate **Free Cash Flow** using the following components of the Cash Flow Statement:

Steel Dynamics - Cash Flow-Based Metrics:	
Effective Tax Rate:	35.2%
Cash Flow from Operations:	$ 312.2
(-) Capital Expenditures (CapEx):	(186.8)
Free Cash Flow (FCF):	**$ 125.3**

Steel Dynamics - Cash Flow Statement:	
Operating Activities:	
Net Income:	**$ 163.5**
Adjustments To Reconcile Net Income To Net Cash Provided By Operating Activities:	
Depreciation And Amortization:	230.9
Impairment Charges:	0.3
Equity-Based Compensation:	15.5
Deferred Income Taxes:	30.7
(Gain) / Loss on Disposal of PP&E:	1.1
Changes In Certain Assets and Liabilities:	
Accounts Receivable:	(78.2)
Inventories:	(108.0)
Other Assets:	13.7
Accounts Payable:	40.1
Income Taxes Receivable/Payable:	(12.5)
Accrued Expenses:	15.0
Net Cash Provided By Operating Activities:	**312.2**
Investing Activities:	
Purchases of PP&E (CapEx):	(186.8)
Proceeds / Maturities of Commercial Paper:	31.5
Other Investing Activities:	2.5
Net Cash Used In Investing Activities:	**(152.8)**
Financing Activities:	
Issuance of Current and Long-Term Debt:	424.0
Repayments of Current and Long-Term Debt:	(518.0)
Proceeds from Exercise of Stock Options:	37.5
Contributions from Noncontrolling Investors:	17.9
Distributions to Noncontrolling Investor:	(0.4)
Dividends Paid:	(94.8)
Debt Issuance Costs:	(6.2)
Net Cash Provided By (Used In) Financing Activities:	**(140.1)**
Increase (Decrease) in Cash & Equivalents:	**19.2**
Cash & Equivalents at Beginning of Year:	375.9
Cash & Equivalents at End of Year:	**$ 395.2**

And if the company had Preferred Stock and Preferred Dividends, the Cash Flow from Operations section would start with Net Income to Common instead, so you'd factor them in like that.

Meanwhile, to calculate Unlevered Free Cash Flow or Free Cash Flow to Firm, you would use these components of the CFS and Operating Income from the Income Statement:

Operating Income (EBIT):	$	386.5
Net Operating Profit After Taxes (NOPAT):		250.6
(+/-) Non-Cash Adjustments from CFS:		278.6
(+/-) Changes in Operating Assets and Liabilities:		(129.9)
(-) Capital Expenditures (CapEx):		(186.8)
Unlevered Free Cash Flow:	**$**	**212.4**

Steel Dynamics - Cash Flow Statement:		
Operating Activities:		
Net Income:	**$**	**163.5**
Adjustments To Reconcile Net Income To Net Cash Provided By Operating Activities:		
Depreciation And Amortization:		230.9
Impairment Charges:		0.3
Equity-Based Compensation:		15.5
Deferred Income Taxes:		30.7
(Gain) / Loss on Disposal of PP&E:		1.1
Changes In Certain Assets and Liabilities:		
Accounts Receivable:		(78.2)
Inventories:		(108.0)
Other Assets:		13.7
Accounts Payable:		40.1
Income Taxes Receivable/Payable:		(12.5)
Accrued Expenses:		15.0
Net Cash Provided By Operating Activities:		**312.2**
Investing Activities:		
Purchases of PP&E (CapEx):		(186.8)
Proceeds / Maturities of Commercial Paper:		31.5
Other Investing Activities:		2.5
Net Cash Used In Investing Activities:		**(152.8)**
Financing Activities:		
Issuance of Current and Long-Term Debt:		424.0
Repayments of Current and Long-Term Debt:		(518.0)
Proceeds from Exercise of Stock Options:		37.5
Contributions from Noncontrolling Investors:		17.9
Distributions to Noncontrolling Investor:		(0.4)
Dividends Paid:		(94.8)
Debt Issuance Costs:		(6.2)
Net Cash Provided By (Used In) Financing Activities:		**(140.1)**
Increase (Decrease) in Cash & Equivalents:		**19.2**
Cash & Equivalents at Beginning of Year:		375.9
Cash & Equivalents at End of Year:	**$**	**395.2**

And then for Levered Free Cash Flow or Free Cash Flow to Equity you would use these components of the Cash Flow Statement:

Net Income:	$ 163.5
(+/-) Non-Cash Adjustments from CFS:	278.6
(+/-) Changes in Operating Assets and Liabilities:	(129.9)
(-) Capital Expenditures (CapEx):	(186.8)
(-) Mandatory Debt Repayments (???):	(518.0)
Levered Free Cash Flow:	**$ (392.6)**

Steel Dynamics - Cash Flow Statement:	
Operating Activities:	
Net Income:	**$ 163.5**
Adjustments To Reconcile Net Income To Net Cash Provided By Operating Activities:	
Depreciation And Amortization:	230.9
Impairment Charges:	0.3
Equity-Based Compensation:	15.5
Deferred Income Taxes:	30.7
(Gain) / Loss on Disposal of PP&E:	1.1
Changes In Certain Assets and Liabilities:	
Accounts Receivable:	(78.2)
Inventories:	(108.0)
Other Assets:	13.7
Accounts Payable:	40.1
Income Taxes Receivable/Payable:	(12.5)
Accrued Expenses:	15.0
Net Cash Provided By Operating Activities:	**312.2**
Investing Activities:	
Purchases of PP&E (CapEx):	(186.8)
Proceeds / Maturities of Commercial Paper:	31.5
Other Investing Activities:	2.5
Net Cash Used In Investing Activities:	**(152.8)**
Financing Activities:	
Issuance of Current and Long-Term Debt:	424.0
Repayments of Current and Long-Term Debt:	(518.0)
Proceeds from Exercise of Stock Options:	37.5
Contributions from Noncontrolling Investors:	17.9
Distributions to Noncontrolling Investor:	(0.4)
Dividends Paid:	(94.8)
Debt Issuance Costs:	(6.2)
Net Cash Provided By (Used In) Financing Activities:	**(140.1)**
Increase (Decrease) in Cash & Equivalents:	**19.2**
Cash & Equivalents at Beginning of Year:	**375.9**
Cash & Equivalents at End of Year:	**$ 395.2**

If the company had Preferred Stock and Preferred Dividends, you'd start the calculation with Net Income to Common instead, and factor them in like that.

Free Cash Flow (FCF) is common in standalone financial statement analysis when you're trying to estimate a company's recurring cash flow.

Unlevered FCF is most common in the DCF analysis and is the cleanest way to estimate a company's value to *all* investors.

Levered FCF is quite rare, but you could use it in a different type of DCF analysis and also to assess a company's ability to service its debt.

	Free Cash Flow (FCF)	Unlevered Free Cash Flow (Unlevered FCF)	Levered Free Cash Flow (Levered FCF)
Also Known As:	Free Cash Flow (FCF)	Free Cash Flow to Firm (FCFF)	Free Cash Flow to Equity (FCFE)
How do you calculate it?	Cash Flow from Operations - CapEx	NOPAT + Non-Cash Adjustments and Changes in Working Capital from CFS - CapEx	Net Income + Non-Cash Adjustments and Changes in Working Capital from CFS - CapEx - (Mandatory?) Debt Repayments
How IFRS and the Direct Method of CFS preparation make the calculation more annoying:	If interest expense and taxes do **NOT** impact CFO, you must factor them in anyway! Also, you may have to go hunting for non-cash adjustments and working capital items.	You may have to go hunting for non-cash adjustments and working capital items.	If interest expense does **NOT** impact CFO, you must factor it in anyway! Also, you may have to go hunting for non-cash adjustments and working capital items.
Corresponds to...	Equity Value	Enterprise Value	Equity Value
Valuation Multiple:	P / FCF per Share; or Equity Value / FCF	Enterprise Value / Unlevered FCF	P / Levered FCF per Share; or Equity Value / Levered FCF
Most commonly used for:	Standalone financial statement analysis.	DCF analysis.	Very little; DCF in certain industries.
Who can "get paid" with this money?	Equity investors	Equity investors and debt / preferred investors	Equity investors
What does it mean?	How much discretionary cash flow does the company generate, after interest but before debt principal repayments?	How much discretionary cash flow does the company generate, before both interest expense and debt principal repayments?	How much discretionary cash flow does the company generate, AFTER servicing ALL of its debt-related expenses?
Reflects normal operating expenses?	Yes	Yes	Yes
Reflects impact of capital expenditures (CapEx)?	Yes	Yes	Yes
Reflects interest income and expense?	Yes	No	Yes
Reflects debt principal repayments?	No	No	Only mandatory repayments.
Reflects taxes?	Yes	Yes	Yes
Reflects non-core business activities?	Yes	No	Yes

	EBIT	EBITDA	Net Income	Free Cash Flow (FCF)	Unlevered Free Cash Flow (Unlevered FCF)	Levered Free Cash Flow (Levered FCF)
How do you calculate it?	Operating Income on Income Statement	Operating Income on Income Statement + D&A, *always* taken from the Cash Flow Statement	Net Income on Income Statement	Cash Flow from Operations - CapEx	NOPAT + Non-Cash Adjustments and Changes in Working Capital from CFS - Capital Expenditures	Net Income + Non-Cash Adjustments and Changes in Working Capital from CFS - Capital Expenditures - (Mandatory?) Debt Repayments
Corresponds to...	Enterprise Value	Enterprise Value	Equity Value	Equity Value	Enterprise Value	Equity Value
Valuation Multiple:	EV / EBIT	EV / EBITDA	P / E (Market Cap / Net Income)	P / FCF per Share; or Equity Value / FCF	Enterprise Value / Unlevered FCF	P / Levered FCF per Share; or Equity Value / Levered FCF
Who has a claim on this money?	Equity investors, debt investors, the government	Equity investors, debt investors, the government	Equity investors	Equity investors	Equity investors and debt investors	Equity investors
What does it mean?	CORE, recurring business **profitability**, before the impact of capital structure and taxes	Proxy for core, recurring business **cash flow from operations**, before the impact of capital structure and taxes	Profit after taxes, the impact of capital structure (interest), AND non-core business activities	How much discretionary cash flow does the company generate, after interest but before debt principal repayments?	How much discretionary cash flow does the company generate, before both interest expense and debt principal repayments?	How much discretionary cash flow does the company generate, AFTER servicing ALL of its debt-related expenses?
Reflects normal operating expenses?	Yes	Yes	Yes	Yes	Yes	Yes
Reflects impact of capital expenditures (CapEx)?	Yes	No	Yes	Yes	Yes	Yes
Reflects interest income and expense?	No	No	Yes	Yes	No	Yes
Reflects taxes?	No	No	Yes	Yes	Yes	Yes
Reflects non-core business activities?	No	No	Yes	Yes	No	Yes
***Can sometimes be* closer to...**	Free Cash Flow (Cash Flow from Operations - CapEx) - but only sometimes!	Cash Flow from Operations... but only sometimes!	Generally, no cash flow-based metric.	N / A	N / A	N / A
Use when...	CapEx is more important and/or company is spending a lot to grow quickly and/or you want to include the impact of CapEx.	CapEx is smaller % of revenue, doesn't matter as much, and/or you want to normalize companies w/ very different CapEx and D&A standards.	Well, try to avoid it if you can... sometimes still useful to look at and compare P/E multiples to others.	Standalone financial statement analysis.	DCF analysis.	Very little; DCF in certain industries.

Return to Top.

Key Rule #10: Other Metrics and Multiples

We've covered the most common valuation metrics and multiples, but there are always more.

These other multiples are **far less important**, so you can consider this section "optional."

You can divide this group into "Other Metrics and Multiples" and "Industry-Specific Metrics and Multiples."

Two other Enterprise Value-based multiples that come up in *many* industries are **EV / NOPAT** and **EV / IC** (IC = Invested Capital, or Equity + Debt + Preferred Stock + possibly other investors).

NOPAT pairs with Enterprise Value because it excludes Interest and Preferred Dividends and is, therefore, available to *all* investors. And Invested Capital, by definition, reflects *all* investors.

EV / NOPAT is not terribly common because it's halfway between EBIT and Net Income, as it reflects Depreciation and taxes, but not the full CapEx spending or Working Capital.

So it's not great for comparison or "cash flow approximation" purposes, though it has its uses (mostly if there's a significant difference in tax rates and you want to factor that in).

EV / IC is more useful because it tells you **how valuable a company is relative to the capital it has raised over the years**.

For example, if a firm has raised $1,000 total of Equity, Debt, and Preferred Stock, is its Enterprise Value now more or less than that?

It tells you how *efficiently* a company is using its capital, and it tends to be correlated with Return on Invested Capital (ROIC), which equals NOPAT / Invested Capital.

EV / IC is most useful for companies in **Asset-intensive industries** like manufacturing, airlines, transportation/logistics, and some telecom sectors. It's not meaningful for software, services, or biotech companies because they're more dependent on employees than capital.

A few other Equity Value-based metrics and multiples include the **PEG Ratio** and the **P / BV multiple** (Equity Value / Book Value, or Price per Share / Book Value per Share).

With the PEG Ratio, you take a company's P / E multiple and divide by its Net Income growth rate.

For example, if the company's Net Income is $100 this year and projected to be $110 next year, its growth rate is 10%. Its PEG Ratio at different P / E multiples would be:

- **P / E Multiple of 10x** = 10x / (10% * 100) = 1.00
- **P / E Multiple of 8x** = 8x / (10% * 100) = 0.80
- **P / E Multiple of 12x** = 12x / (10% * 100) = 1.20

PEG Ratios tell you *how cheap or expensive a company is* ***relative to its Net Income growth rate***. If the ratio is below 1.00, the company might be a good value; if it's above 1.00, it might be more expensive.

Lower PEG Ratios mean you're getting more growth for your money, while higher PEG Ratios indicate less growth for your money.

Although the PEG Ratio has its uses, it's not that common because it suffers from the same problems as the P / E multiple: It's affected by different tax rates, capital structures, non-core business activities, and so on.

The **P / BV**, or Price per Share / Book Value per Share, or Equity Value / Book Value, multiple is more common for *certain* types of companies.

The idea is similar to the **EV / IC** multiple, but P / BV corresponds to **only equity investors**.

To calculate it, you take the company's Equity Value and divide it by its **Common Shareholders' Equity** (i.e., the Book Value of Equity on its Balance Sheet, excluding Preferred Stock and Noncontrolling Interests).

It tells you how the market value of a company's Equity compares to the Equity shown on its Balance Sheet, and how efficiently the company has used its capital.

An "average" company's P / BV multiple should be around 1x, while "cheap" companies trade at under 1x, and "expensive" companies trade at more than 1x.

However, the P / BV multiple doesn't mean much for many companies because most of their value is NOT linked directly to the Balance Sheet.

P / BV is most meaningful for commercial banks and insurance firms, which have totally different accounting and valuation methodologies and are Balance Sheet-driven.

It is sometimes meaningful for other capital-intensive industries, and it's completely meaningless for service/labor/IP-oriented industries.

It's correlated with **Return on Equity**, which is defined as Net Income / Average Equity (or Net Income to Common / Average Common Shareholders' Equity if there's Preferred Stock).

Companies that generate higher Net Income relative to their Equity tend to trade at higher P / BV multiples.

Industry-Specific Metrics and Multiples

Finally, **industry-specific** metrics and multiples also exist.

Sometimes, they exist **because nothing else works:** If a biotech or technology startup has no revenue yet, you can't use EV / EBITDA or EV / Revenue to value it.

You have to use some other metric, such as Unique Visitors or Monthly Active Users or Registered Users.

Other times, they exist because **modified financial metrics** may be more meaningful, or because **operational metrics** are just as relevant as financial ones.

Most industries use standard valuation multiples, but a few use very different ones:

- **The MOST Different Sector:** Commercial Banks and Insurance Firms – There are MANY different metrics and multiples, you don't use the DCF, and the concept of Enterprise Value doesn't apply.

- **Moderately Different:** Metals & Mining, Oil & Gas, and Real Estate and REITs (real estate investment trusts). Standard multiples apply, but there are also new ones and new methodologies.

- **Somewhat Different:** Healthcare, Airlines, Power & Utilities, and Cleantech. The multiples are standard, but many operational metrics are different.

- **Quite Standard:** Consumer/Retail, Restaurants, Chemicals, Construction, Transportation, Technology, and Media/Telecom.

Here is a **quick summary** for each of those segments:

Financial Institutions (FIG)

For commercial banks and insurance firms, the concept of "Enterprise Value" doesn't exist because you can't separate operational and financial items. A Loan or Investment is a non-core-business Asset to a normal company, but it's an operational Asset to a bank.

You rely more on P / E, P / BV, P / TBV (Equity Value / Tangible Book Value) multiples, the Dividend Discount Model (DDM) rather than the DCF, and for life insurance, the Embedded Value methodology (a super-long-term type of DCF).

For other sectors within financial institutions – asset management firms, investment banks, brokerages, and fin-tech companies – all the standard metrics, multiples, and methodologies apply, the DCF still works, and Enterprise Value is still meaningful.

Metals & Mining

You still use standard multiples here, but **Reserves**, **Resources**, and **Production** are very important operational metrics as well.

"Reserves" have a higher probability of being extracted than Resources, and Resources can be split into Inferred, Measured, and Indicated.

Mining companies that operate in different segments (e.g., gold, zinc, and copper) often convert everything into "Mineral Equivalent" Resources and Reserves.

You can then use valuation multiples like Enterprise Value / Mineral Equivalent Reserves or Enterprise Value / Mineral Equivalent Production.

The **NAV Model**, which is a super-long-term DCF without a Terminal Value (you assume the mine simply runs out of resources), is also common.

Oil & Gas

Just like in mining, you can make multiples out of metrics like Reserves and Production: EV / Proved Reserves and EV / Daily Production, for example.

Some "upstream" (exploration & production) companies capitalize the cost of all exploration, while others expense the unsuccessful portion, so you use **EBITDAX** (EBITDA + Exploration Expense) to normalize these treatments.

For midstream companies (pipeline companies that transport oil), "Distributable Cash Flow" is very important because these companies are structured as Master Limited Partnerships (MLPs).

Downstream companies (ones that refine oil and gas and turn it into fuel) tend to use standard metrics and multiples.

Real Estate and REITs

Most segments – gaming, lodging, and homebuilding – use standard metrics and multiples.

Real Estate Investment Trusts (REITs) are companies that buy, sell, develop, and renovate properties constantly, and act like "private equity firms for properties."

Since massive Depreciation and constant Gains and Losses on property sales distort their Net Income, you use **Funds from Operations (FFO)**, which is Net Income + D&A – Gains + Losses, instead of Net Income. It's still *after* Interest Expense, so the multiple is Equity Value / FFO.

There's also **Adjusted Funds from Operations (AFFO)**, which adjusts for other non-cash and non-recurring items.

There is a **Net Asset Value (NAV)** model for REITs as well, but it's based on valuing each property individually and determining the REIT's value from that. So it's a Balance Sheet valuation rather than a super-long-term DCF.

Healthcare

There are no major valuation differences, but you'll see far-in-the-future DCF analyses for startup biotech firms that are not yet generating Revenue, and for more established companies, you'll see different metrics such as $ per Patient, # of Beds, and so on.

Airlines

You often use EBITDAR and (EV + Capitalized Operating Leases) / EBITDAR because some airlines rent their planes, some own them, and some do a mix of both.

The operational metrics are also different since Revenue per Available Seat Mile (RASM) or per Kilometer, the Load Factor, Revenue Passenger Miles (RPM) or Kilometers, and the Passenger Count all matter a lot.

Power & Utilities

You use standard multiples, but the metrics differ: one key one is **Megawatt (MW) Supply**, defined as Existing Generation – Expected Retirements + Expected Additions + Net Imports.

You also pay a lot of attention to Cost Recovery, Plant Availability and Reliability, and Outage Rates.

Cleantech

Similar to traditional Power & Utility companies, **power generated** and related metrics are quite important, and many asset prices are quoted on a $ per KW basis.

Consumer/Retail

The valuation multiples are all standard, and (EV + Capitalized Operating Leases) / EBITDAR is common when some companies rent their stores, and others own them.

Important operating metrics include Same-Store Sales, Inventory Turnover, Sales per Store, and Sales per Square Foot or Square Meter.

Chemicals

Valuation multiples are very standard; a key operating metric is **production capacity**.

Construction Services

The valuation multiples are standard, but the key operating metrics include the **Backlog** (how much work has been signed but not yet completed), **Option Years** (years of potential work over the minimum in the Backlog), and the **Book to Bill Ratio** (the ratio of work a company is signing vs. delivering).

Transportation & Logistics and Maritime/Shipping

The multiples are all standard, but valuation can get tricky because many shipping companies are structured as MLPs. So you have to think about Distributable Cash Flow and *which* sets of investors are entitled to different cash flows from the company.

Key metrics include Shipping Capacity, Contract Length, Utilization Rates, Average Length of Haul, # of Drivers or # of Ships, and Revenue per Mile or Kilometer.

Technology

The multiples are standard for established companies, but for pre-revenue startups and mobile/gaming companies, you'll see metrics like Unique Visitors, Monthly Active Users, Mobile Users, and Subscribers, all of which pair with Enterprise Value.

Media / Telecom

The standard multiples all apply, but **# Subscribers** is vital, and EV / Subscribers is a common multiple. Other key metrics include Average Revenue per User (ARPU), Subscriber Penetration, Renewal Rates, # Access Lines, and Access Line Growth.

Return to Top.