BANKING AT MICHIGAN

BANKING AT MICHIGAN

Enterprise Value/Equity Value

Baha Kharoofa, Mansi Gupta, Danier Gao

November 28, 2022

www.bankingatmichigan.org

Agenda

- Definitions of Enterprise Value and Equity Value
- Implications
- Why Enterprise Value is a Pink Unicorn
- Dilutive Securities
- Moving from Equity Value to Enterprise Value
- Valuation Multiples & Metrics
- Different types of Cash Flows

Definitions

- **Equity Value**: The value of **EVERYTHING** a company has (i.e., ALL its Assets), but only to **EQUITY INVESTORS** (i.e., common shareholders).
    - If a company is publicly traded, its current equity value is its market capitalization
- **Enterprise Value**: The value of the company's **CORE BUSINESS OPERATIONS** (i.e., ONLY the Assets related to its core business), but to **ALL INVESTORS** (Equity, Debt, Preferred, and possibly others).

Moving from Equity to Enterprise: High-Level

- Equity Value = Value of Core-Business Assets + **Value of Non-Core-Business Assets**
- Enterprise Value = Value of Core-Business Assets
- Equity Value = Value to Equity Investors
- Enterprise Value = Value to Equity Investors + **Value to Debt Investors + Value to Preferred Investors (and possibly others)**

Example: Equity to Enterprise Value

Assumptions & Model Output			
Tax Rate:	40%	**Current Equity Value:**	**$ 10,000**
		(+) Debt:	550
Share Price:	$ 10.00	(+) Preferred Stock:	200
Shares Outstanding:	1,000	(+) Noncontrolling Interests:	-
Initial Cash Balance:	$ 100	(-) Cash & Investments:	(300)
		Current Enterprise Value:	**$ 10,450**

- Equity Value
  - Market Capitalization
- Enterprise Value
  - Equity Value + Debt + Preferred Stock **- (Cash & Investments)**

Balance Sheet Example

Equity:

COACH, INC.
CONSOLIDATED BALANCE SHEETS
ASSETS

Current Assets:		
Cash and cash equivalents	$	1,291.8
Short-term investments		234.0
Trade accounts receivable, less allowances of $3.1 and $1.4, respectively		219.5
Inventories		485.1
Deferred income taxes		98.4
Prepaid expenses		73.1
Other current assets		104.6
Total current assets		2,506.5
Property and equipment, net		732.6
Long-term investments		406.0
Goodwill		434.2
Intangible assets		359.9
Deferred income taxes		115.8
Other assets		111.9
Total assets	$	4,666.9
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Accounts payable	$	222.8
Accrued liabilities		600.6
Current debt		11.3
Total current liabilities		834.7
Long-term debt		879.1
Other liabilities		463.2
Total liabilities		2,177.0
Stockholders' Equity:		
Preferred stock: (authorized 25.0 million shares; $0.01 par value) none issued		—
Common stock: (authorized 1,000.0 million shares; $0.01 par value) issued and outstanding – 276.6 million and 274.4 million shares, respectively		2.8
Additional paid-in-capital		2,754.4
Accumulated deficit		(189.6)
Accumulated other comprehensive loss		(77.7)
Total stockholders' equity		2,489.9
Total liabilities and stockholders' equity	$	4,666.9

Enterprise:

COACH, INC.
CONSOLIDATED BALANCE SHEETS
ASSETS

Current Assets:		
Cash and cash equivalents	$	1,291.8
Short-term investments		234.0
Trade accounts receivable, less allowances of $3.1 and $1.4, respectively		219.5
Inventories		485.1
Deferred income taxes		98.4
Prepaid expenses		73.1
Other current assets		104.6
Total current assets		2,506.5
Property and equipment, net		732.6
Long-term investments		406.0
Goodwill		434.2
Intangible assets		359.9
Deferred income taxes		115.8
Other assets		111.9
Total assets	$	4,666.9
LIABILITIES AND STOCKHOLDERS' EQUITY		
Current Liabilities:		
Accounts payable	$	222.8
Accrued liabilities		600.6
Current debt		11.3
Total current liabilities		834.7
Long-term debt		879.1
Other liabilities		463.2
Total liabilities		2,177.0
Stockholders' Equity:		
Preferred stock: (authorized 25.0 million shares; $0.01 par value) none issued		—
Common stock: (authorized 1,000.0 million shares; $0.01 par value) issued and outstanding – 276.6 million and 274.4 million shares, respectively		2.8
Additional paid-in-capital		2,754.4
Accumulated deficit		(189.6)
Accumulated other comprehensive loss		(77.7)
Total stockholders' equity		2,489.9
Total liabilities and stockholders' equity	$	4,666.9

What about private companies?

- For all companies, there is a difference between a company's value and its implied value
  - Implied is valuing the company according to your views of it
  - You project the company’s cash flows, and then you discount them back to their Present Value, using a variation of this formula:
    - Company Value = Cash Flow / (Discount Rate – Cash Flow Growth Rate)
- For a private company: you can’t calculate Current Equity Value by using the company’s share price and shares outstanding because its shares are not publicly traded.
  - Rely on other methodologies
- In practice, you often skip Current Equity Value and Current Enterprise Value for private companies altogether and just use your views to estimate the Implied Equity Value and Implied Enterprise Value.

Implications of Equity and Enterprise Value

Implication 1:

Current Equity Value Cannot Be Negative, But Current Enterprise Value Can Be Negative

Two ways to think about this:

- Companies share price cannot be negative, and it cannot have a negative share count
- A company's total assets cannot have a negative value

Enterprise Value can be negative, for example: Current Enterprise Value could easily be negative. For example, current equity value is $100 million, it has $200 million in Cash and no Debt

- Enterprise Value is $(100mm)

Implication 2:

Both the IMPLIED Equity Value and IMPLIED Enterprise Value Can Be Negative

- You use your views of a company to calculate its Implied Equity Value and Implied Enterprise Value.
- **Company Value = Cash Flow / (Discount Rate – Cash Flow Growth Rate)**

Implication 3:

IN THEORY, Financing Events Will Not Affect Enterprise Value, But They May Affect Equity Value

- Easiest to think of it in terms of this formula: **Enterprise Value = Equity Value + Debt - Cash**
- Raising Debt: Won't impact Enterprise Value; Cash and Debt both increase and offset each other.
- Repaying Debt: Won't impact Enterprise Value; Cash and Debt both decrease and offset each other.
- Raising Equity: Won't impact Enterprise Value; Cash and Equity Value both increase and offset each other.
- Repurchasing Shares: Won't impact Enterprise Value; Cash and Equity Value both decrease and offset each other.
- Issuing Dividends: Won't impact Enterprise Value; Cash and Equity Value both decrease and offset each other.

Implication 4:

IN THEORY, Only Changes to a Company's Core Business Will Affect Enterprise Value

- Example 1: The company wins a major contract with a new customer, boosting its expected future Revenue.
- Example 2: The company's expansion strategy into Southeast Asia succeeds more quickly than expected, boosting its expected future Revenue.
- Example 3: The company closes down an unprofitable division, boosting its margins and its expected future cash flow.
- Example 4: The company negotiates a better supplier contract, boosting its margins and its expected future cash flow.
- **These changes all improve the company's expected future cash flow.**

Implication 5:

Metrics That Represent ONLY Equity Investors Pair with Equity Value, and Metrics That Represent ALL Investors Pair with Enterprise Value

COACH, INC.
CONSOLIDATED STATEMENTS OF INCOME

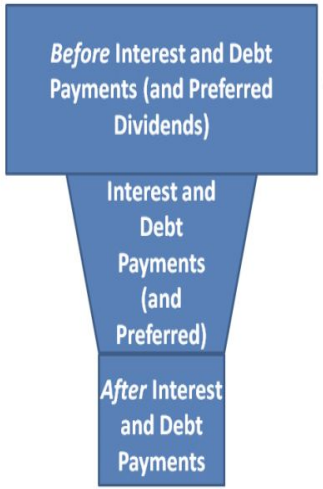
Net sales	$	4,191.6
Cost of sales		1,283.0
Gross profit		2,908.6
Selling, general and administrative expenses		2,290.6
Operating income		618.0
Interest (expense) income, net		(6.4)
Other expense		—
Income before provision for income taxes		611.6
Provision for income taxes		209.2
Net income	$	402.4
Net income per share:		
Basic	$	1.46
Diluted	$	1.45
Shares used in computing net income per share:		
Basic		275.7
Diluted		277.2
Cash dividends declared per common share	$	1.350

Everything up here is available to **ALL** investors and benefits everyone, so these items all pair with Enterprise Value.

The **Debt** investors "get paid" here with this Interest. After they receive this Interest, nothing else on the Income Statement is available for them.

Other Income / (Expense) is based on the **non-core-business Assets** a company has. So once we factor this in, it means that *anything* below it has to correspond to All Assets and Equity Value.

And this is **why** Net Income corresponds to Equity Value: Debt and Preferred Investors have been paid by this point, so they're out of the picture. But we've also included income and expenses from non-core-business Assets right above!



Available to All Investors (Equity, Debt, Preferred) – Enterprise Value!

Paid to Debt/Preferred Investors – They're out of the equation now.

Only Available to Equity Investors – Use Equity Value!

Implication 5:

Metrics that pair with **Enterprise Value**:

- Revenue
- Operating Income or EBIT
- Net Operating Profit After Taxes (NOPAT), defined as EBIT * (1 – Tax Rate)
- EBITDA
- Unlevered Free Cash Flow (UFCF) or Free Cash Flow to Firm (FCFF) – Cash flow that's available to ALL investors

Metrics that pair with **Equity Value**:

- Net Income (or Net Income to Common if there are Preferred Dividends)
- Free Cash Flow (CFO – CapEx)
- Levered Free Cash Flow (CFO – CapEx – Mandatory Debt Repayments)

Valuation Multiples with Equity and Enterprise Value

Why are they important?

- Equity Value and Enterprise Value are useful when you create a long-term cash flow analysis for a company and you want to compare the company's Implied Value to its Current Value, but not as much when comparing 2 companies
- For example:
  - Company A – Current Equity Value of $500 million; Current Enterprise Value of $800 million.
  - Company B – Current Equity Value of $100 million; Current Enterprise Value of $300 million.
- Now take into consideration: Company A has $100 million in EBITDA and $300 million in Revenue, and Company B has $10 million in EBITDA and $30 million in Revenue
  - Create multiples
    - Company A – EV / EBITDA = 8.0x; EV / Revenue = 2.7x.
    - Company B – EV / EBITDA = 30.0x; EV / Revenue = 10.0x.
  - Now which one is more valuable?

Common Valuation Multiples

EV / Revenue – Enterprise Value / Revenue

EV / EBIT – Enterprise Value / EBIT

EV / EBITDA – Enterprise Value / EBITDA

P / E – Equity Value / Net Income or Price per Share / Earnings per Share

Don’t use “Half Pregnant” Multiples

- Avoid using multiples that correspond to something “halfway” between Equity Value and Enterprise Value
- Use Equity Value or Enterprise Value, or use Enterprise Value plus other items, but don’t use numerators that are “in between” Equity Value and Enterprise Value
- For example, not subtracting debt when you are moving from equity to enterprise value and still using it in a multiple
- Use Equity Value or Enterprise Value, or use Enterprise Value plus other items, but don’t use numerators that are “in between” Equity Value and Enterprise Value

General Rules and Issues of Multiples

- A valuation multiple is a short way to say, “If this company’s Cash Flow is A, and it’s growing at a rate of B, and the Discount Rate is C, then the company is worth $X”
    - The higher multiple indicates that you’d be willing to pay more for the company if its cash flows were growing more quickly
- Problems - why they are not perfect
    - Differences between IS metrics and Cash Flow
    - Non-financial factors also influence valuation multiples
- The General Rule: **If two companies are very similar, but one company is trading at higher multiples, the company with higher multiples has a higher expected cash flow growth rate**

Why Enterprise Value is a Pink Unicorn

Enterprise Value & financing events

- **Enterprise Value** is **LESS** affected by financing events than **Equity Value**
- Company Value = Cash Flow / (Discount Rate – Cash Flow Growth Rate)
    - Implied Enterprise Value = Unlevered FCF / (**WACC** – Unlevered FCF Growth Rate)
        - You use weight average cost of capital (WACC) for the discount rate
        - WACC = the “cost” of each part of a company’s capital structure times the percentage of capital in that part
        - WACC = Cost of Equity * % Equity + Cost of Debt * % Debt + Cost of Preferred * % Preferred
        - Changes in debt/equity/preferred stock cause the WACC to change

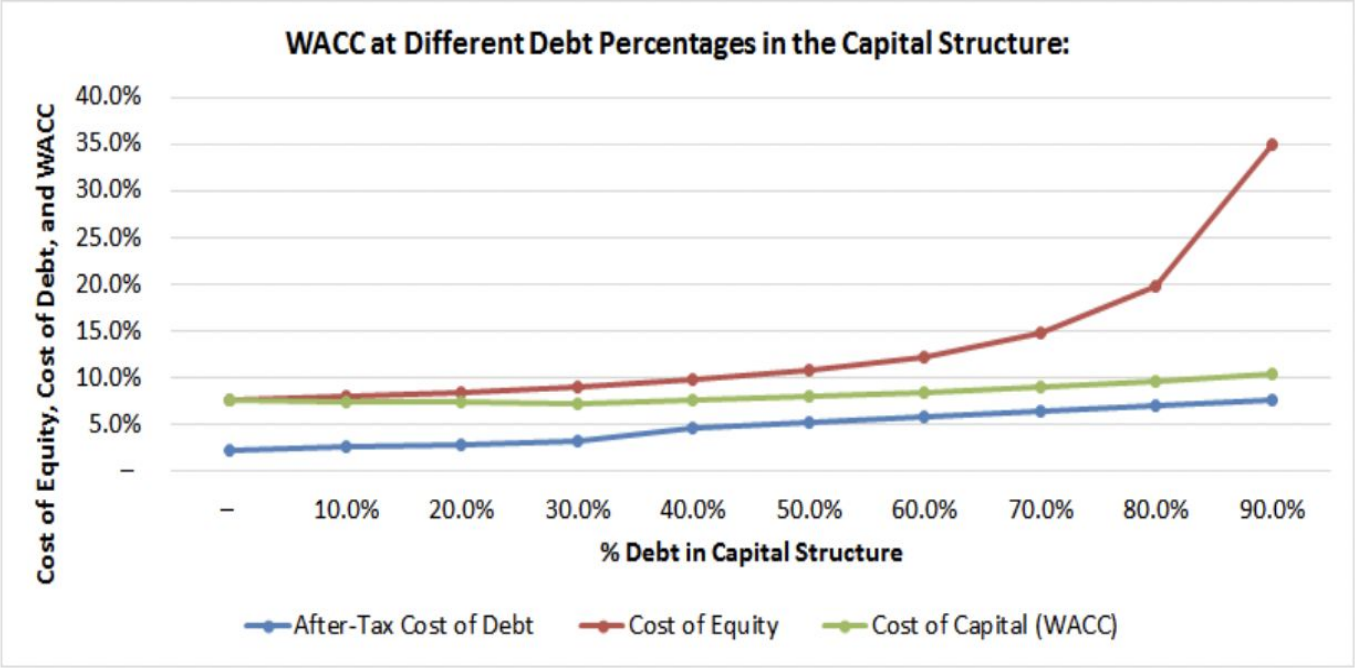
Changes in Debt & Equity on WACC

- Debt is considered as “cheaper” than Equity and will reduce WACC to a certain point
  - Debt investors have lower returns expectations than Equity investors since they earn a fixed interest rate on Debt
  - Interest Expense is tax deductible for the company
- As Debt / Total Capital Ratio passes a certain level, **costs of debt & equity increases**
  - Higher the debt, the greater the risk for all investors because the chance of bankruptcy increases

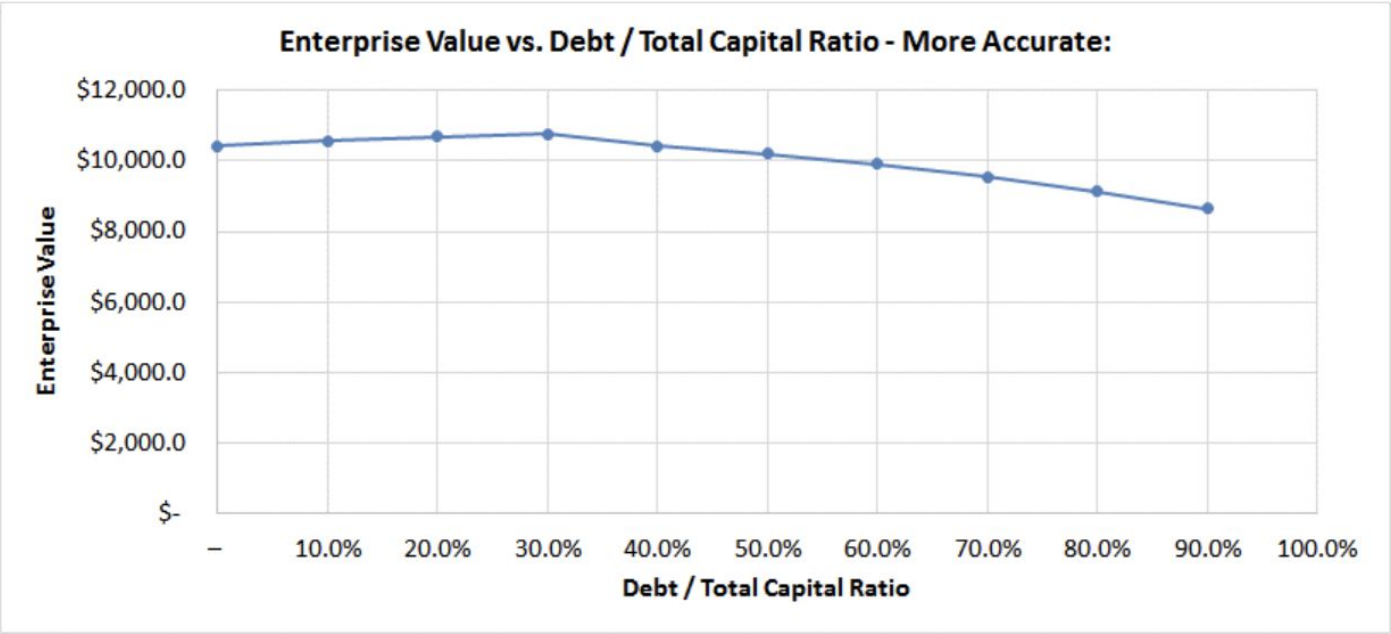
How Different Factors Impact WACC, the Cost of Debt, and the Cost of Equity:

Debt / Total Cap.:	Debt / Equity:	Relevered Beta:	Risk Spread:	Cost of Debt: Pre-Tax:	Cost of Debt: After-Tax:	Cost of Equity:	Implied WACC:
–	–	0.72	1.0%	3.6%	2.2%	7.7%	7.7%
10.0%	11.1%	0.77	1.5%	4.1%	2.5%	8.0%	7.4%
20.0%	25.0%	0.83	2.0%	4.6%	2.8%	8.4%	7.3%
30.0%	42.9%	0.90	2.5%	5.1%	3.1%	8.9%	7.2%
40.0%	66.7%	1.01	5.0%	7.6%	4.6%	9.7%	7.6%
50.0%	100.0%	1.15	6.0%	8.6%	5.2%	10.7%	7.9%
60.0%	150.0%	1.37	7.0%	9.6%	5.8%	12.2%	8.3%
70.0%	233.3%	1.73	8.0%	10.6%	6.4%	14.7%	8.9%
80.0%	400.0%	2.44	9.0%	11.6%	7.0%	19.7%	9.5%
90.0%	900.0%	4.60	10.0%	12.6%	7.6%	34.8%	10.3%

Example of effect on WACC



Effect on Implied Enterprise Value



Difference between Accounting and Implied EVs

Debt / Total Capital:	Debt / Equity:	Relevered Beta:	Risk Spread:	Cost of Debt: Pre-Tax:	Cost of Debt: After-Tax:	Cost of Equity:	Implied WACC:	"Accounting" Enterprise Value:	Implied Enterprise Value:
–	–	0.72	1.0%	3.6%	2.2%	7.7%	7.7%	$ 10,770.6	$ 10,413.3
10.0%	11.1%	0.77	1.5%	4.1%	2.5%	8.0%	7.4%	10,770.6	10,576.3
20.0%	25.0%	0.83	2.0%	4.6%	2.8%	8.4%	7.3%	10,770.6	10,696.1
30.0%	42.9%	0.90	2.5%	5.1%	3.1%	8.9%	7.2%	10,770.6	10,770.6
40.0%	66.7%	1.01	5.0%	7.6%	4.6%	9.7%	7.6%	10,770.6	10,431.4
50.0%	100.0%	1.15	6.0%	8.6%	5.2%	10.7%	7.9%	10,770.6	10,214.3
60.0%	150.0%	1.37	7.0%	9.6%	5.8%	12.2%	8.3%	10,770.6	9,918.1
70.0%	233.3%	1.73	8.0%	10.6%	6.4%	14.7%	8.9%	10,770.6	9,552.0
80.0%	400.0%	2.44	9.0%	11.6%	7.0%	19.7%	9.5%	10,770.6	9,126.8
90.0%	900.0%	4.60	10.0%	12.6%	7.6%	34.8%	10.3%	10,770.6	8,654.4

The company gets riskier and riskier for *all* investors as it takes on more Debt.

Initially, the Discount Rate decreases as the company uses more Debt, but past a certain point, more Debt starts *increasing* risk and therefore *increasing* the Discount Rate.

If you pretend that the Discount Rate does NOT change as the company uses more Debt, you get these results.

But in reality, the Discount Rate WILL change, so these results are more accurate.

Effect of Different Capital Structures

- **Taxes:** Debt is deductible but common stock and preferred stock is not
  - EV is not affected the same way by additional equity vs additional debt
- **Bankruptcy Risk:** Debt and some types of preferred stock increase bankruptcy risk but increase in equity does not
  - Difference is due to company owing principle and interest payments to debt investors
- **Agency Costs:** Debt investors want to earn interest and principle while equity investors want the company to grow due to having unlimited upside
  - Conflict of interest indicates that debt does not equal equity
- **Efficient Markets:** Debt, preferred stock, and equity are assumed to be equivalent, which is often incorrect because market inefficiencies exist where relevant information is not priced in

Why is this important?

- As a company raises debt, current enterprise value will not change overnight but may gradually change if debt is expected to increase
- Enterprise Value is not capital structure neutral
- Changes to a company’s capital structure may affect its Equity Value by significantly more than they affect its Enterprise Value

Events That Impact Enterprise Value vs Equity Value

- Revisiting the difference in definitions
  - Equity Value = Value of Core-Business Assets + **Value of Non-Core-Business Assets**
  - Enterprise Value = Value of Core-Business Assets
- Changes to valuation multiples - only numerator changes **IMMEDIATELY** after
  - Theory: Enterprise Value and Enterprise Value-based multiples will not change after financing events take place
  - Reality: Will change but by far less than Equity Value and Equity Value-based multiples

Approach

1. What is affected by change - non core or core business operations?
2. How does this change affect balance sheet items?
3. What multiples are affected?

Raising and Paying Off Debt

What if It Raises EUR 1,000 in Debt?	
Cash Changes By:	1,000
Debt Changes By:	1,000
Equity Changes By:	-
Preferred Stock Changes By:	-
Diluted Equity Value:	**€ 25,356**
(-) Cash & Cash-Equivalents:	(1,868)
(-) Other Investments:	(659)
(-) Equity Investments:	(290)
(-) Other Non-Core Assets, Net:	(17,983)
(-) Value of Net Operating Losses:	-
(+) Total Debt:	13,243
(+) Preferred Stock:	-
(+) Noncontrolling Interests:	1,659
(+) Unfunded Pension Obligations:	674
(+) Capital Leases:	-
(+) Restructuring & Legal Liab.:	2,849
Enterprise Value:	**€ 22,981**
LTM EV / Revenue:	1.9 x
LTM EV / EBITDA:	10.9 x
LTM P / E:	33.6 x

What if It Repays EUR 1,000 of Debt?	
Cash Changes By:	(1,000)
Debt Changes By:	(1,000)
Equity Changes By:	-
Preferred Stock Changes By:	-
Diluted Equity Value:	**€ 25,356**
(-) Cash & Cash-Equivalents:	132
(-) Other Investments:	(659)
(-) Equity Investments:	(290)
(-) Other Non-Core Assets, Net:	(17,983)
(-) Value of Net Operating Losses:	-
(+) Total Debt:	11,243
(+) Preferred Stock:	-
(+) Noncontrolling Interests:	1,659
(+) Unfunded Pension Obligations:	674
(+) Capital Leases:	-
(+) Restructuring & Legal Liab.:	2,849
Enterprise Value:	**€ 22,981**
LTM EV / Revenue:	1.9 x
LTM EV / EBITDA:	10.9 x
LTM P / E:	33.6 x

With these changes, nothing happens to Enterprise Value because the higher or lower Cash balance offsets the change in Debt.

Equity Value does not change because issuing and repaying Debt does not impact a company's Equity in any way.

So no multiples here change.

Issuing and Repurchasing Shares

These changes are also straightforward because they impact **Equity Value** and **Cash**, but nothing else.

Issuing shares will shift more of the company's capital structure to Equity, but will not affect Enterprise Value.

As a result, the P/E multiples change, but the Enterprise Value-based ones do not.

What if It Issues EUR 1,000 of Shares?	
Cash Changes By:	1,000
Debt Changes By:	-
Equity Changes By:	1,000
Preferred Stock Changes By:	-
Diluted Equity Value:	**€ 26,356**
(-) Cash & Cash-Equivalents:	(1,868)
(-) Other Investments:	(659)
(-) Equity Investments:	(290)
(-) Other Non-Core Assets, Net:	(17,983)
(-) Value of Net Operating Losses:	-
(+) Total Debt:	12,243
(+) Preferred Stock:	-
(+) Noncontrolling Interests:	1,659
(+) Unfunded Pension Obligations:	674
(+) Capital Leases:	-
(+) Restructuring & Legal Liab.:	2,849
Enterprise Value:	**€ 22,981**
LTM EV / Revenue:	1.9 x
LTM EV / EBITDA:	10.9 x
LTM P / E:	34.9 x

What if It Repurchases EUR 1,000 of Shares?	
Cash Changes By:	(1,000)
Debt Changes By:	-
Equity Changes By:	(1,000)
Preferred Stock Changes By:	-
Diluted Equity Value:	**€ 24,356**
(-) Cash & Cash-Equivalents:	132
(-) Other Investments:	(659)
(-) Equity Investments:	(290)
(-) Other Non-Core Assets, Net:	(17,983)
(-) Value of Net Operating Losses:	-
(+) Total Debt:	12,243
(+) Preferred Stock:	-
(+) Noncontrolling Interests:	1,659
(+) Unfunded Pension Obligations:	674
(+) Capital Leases:	-
(+) Restructuring & Legal Liab.:	2,849
Enterprise Value:	**€ 22,981**
LTM EV / Revenue:	1.9 x
LTM EV / EBITDA:	10.9 x
LTM P / E:	32.3 x

Issuing Common or Preferred Dividends

What if It Issues EUR 1,000 in Dividends?	
Cash Changes By:	(1,000)
Debt Changes By:	-
Equity Changes By:	(1,000)
Preferred Stock Changes By:	-
Diluted Equity Value:	**€ 24,356**
(-) Cash & Cash-Equivalents:	132
(-) Other Investments:	(659)
(-) Equity Investments:	(290)
(-) Other Non-Core Assets, Net:	(17,983)
(-) Value of Net Operating Losses:	-
(+) Total Debt:	12,243
(+) Preferred Stock:	-
(+) Noncontrolling Interests:	1,659
(+) Unfunded Pension Obligations:	674
(+) Capital Leases:	-
(+) Restructuring & Legal Liab.:	2,849
Enterprise Value:	**€ 22,981**
LTM EV / Revenue:	1.9 x
LTM EV / EBITDA:	10.9 x
LTM P / E:	32.3 x

Note that both Common and Preferred Dividends **affect Equity Value and Enterprise Value in the same way**.

Issuing either type of Dividend reduces a company's Equity on the Balance Sheet (Retained Earnings specifically) and therefore reduces its Equity Value as well – since Equity Value represents the *market value* of a company's Equity.

The company uses Cash to issue these Dividends, so its Cash balance falls.

Enterprise Value doesn't change because the Cash and Equity changes offset each other.

So the Enterprise Value-based multiples stay the same, while the P/E multiple changes.

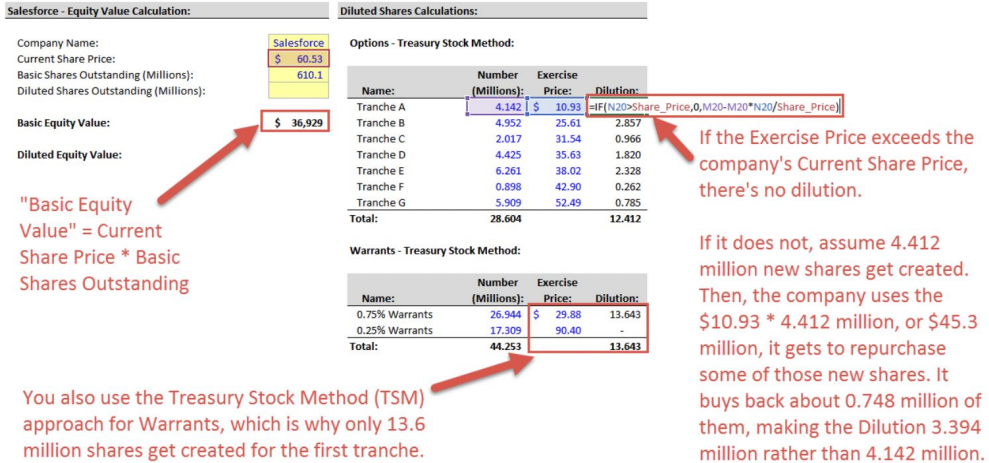
Dilutive Securities

Types of Dilutive Securities

- Purpose: reduces a company's short term cash expenses at the risk of possible higher costs in the future
  - **Paying employees with stock options:** The company's share price is $10.00 right now, but if it reaches $20.00, the employees can pay the company $20.00 per option to get 1 new share of the company
  - **Issuing convertible bond:** Right now, the company's share price is $50.00. But if it reaches $100.00, the convertible bond investors can "convert" the bond into shares and make a lot more money
  - **Issuing restricted stock units (RSUs):** These are like normal shares of the company, but they have restrictions on when the employees can buy and sell them

Treasury Stock Method

- Option holders get new shares while the company repurchases new shares with this money (not always true)
- **Net Dilution:** 4.142 million – 0.748 million = 3.394 million
- **Out of money** - exercise price is less than company's current share price
- **In money** - exercise price is greater than company's current share price

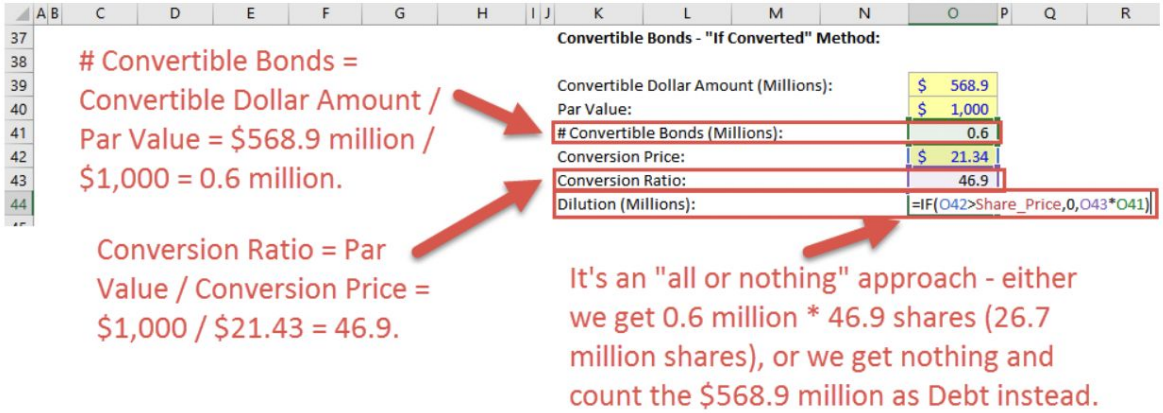


So the math for Tranche A of Salesforce's options goes like this:

- **Initially Created Shares:** 4.142 million
- **Company Gets Cash Proceeds of:** $10.93 * 4.142 million = $45.272 million
- **Company Repurchases:** $45.272 million / $60.53 = 0.748 million shares.

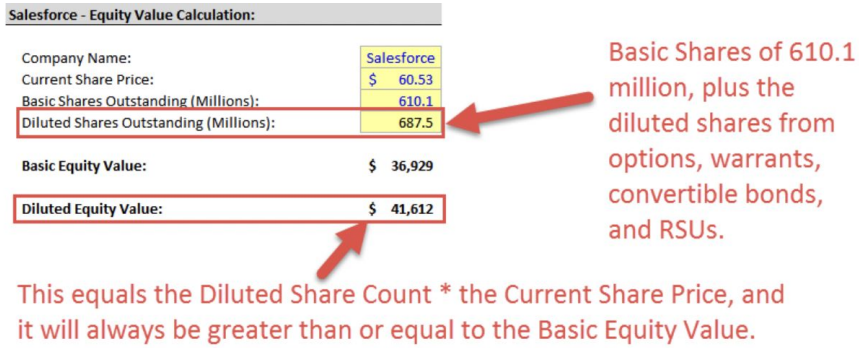
“If Converted” Method

- If company’s current share price exceeds conversion price, all bonds convert to shares
- If company’s current share prices is lower than conversion price, count all bonds as Debt
- Categorization has no effect on EV value



Straight-Up Addition Method

- Diluted share count - includes its basic shares plus potential shares from options/convertible bonds/ RSUs
- Diluted Equity Value
  - greater than Basic Equity Value
  - More accurate Current Equity Value
- Diluted Share Count
  - Used to calculate Implied Share Price
  - Makes a bigger impact in public companies



Moving From Equity Value to Enterprise Value

Moving From Equity Value to Enterprise Value

Recall their definitions:

- **Equity Value** = Value of Core-Business Assets + Value of Non-Core-Business Assets to only equity owners
- **Enterprise Value** = Value of Core-Business Assets to all investors

For simple scenarios, you subtract Non-Core-Business Assets(cash, other investments), and you add items that represent other investor groups(debts, preferred stocks).

Moving From Equity Value to Enterprise Value

3 rule of thumb on what to add and subtract when moving from Equity Value to Enterprise Value

1. Add long-term funding sources
2. Add items that will cost a potential acquirer extra
3. Subtract items that are not operating assets

Add long-term funding sources

- Should add anything that funds the company's operations for years
- Debts and Preferred stocks are obvious
- Unfunded Pension Obligations should count towards Enterprise Value

- Debt, Preferred Stock, Noncontrolling Interests, Capital Leases, Unfunded Pensions, and Restructuring or Environmental Liabilities

Add items that will cost potential acquirer extra

- If the company has raised funding, and the terms of that funding say that it must be repaid in a change of control, it should be added
- Best examples are Debt and Preferred stock
- Items like Accounts Payable don’t qualify

Subtract items that are not operating assets

- Two considerations:
  - Can a company operate without a certain Asset?
  - Did the company get a certain asset as a result of its side activities?
- If at least one of those is true, you should subtract the item

- Cash, Investments, Net Operating Losses, Assets held for sale, and Assets of discontinued operations

Example

Balance Sheet:	Q1 End:	Should You SUBTRACT It in the Equity Value --> Enterprise Value Calculation?
Assets:		
Current Assets:		
Cash:	€ 868	**Yes! Always**. Cash is a non-core-business Asset.
Current Financial Assets:	21	**Almost certainly**. But check the footnotes to make sure they really are "non-core."
Accounts Receivable:	2,227	No! Never. It's an operating asset.
Current Content Assets:	981	No! Never. It's an operating asset (TV/films for a media company).
Current Tax Receivables:	636	No! Never. It's an operating asset (constantly being collected/paid out).
Inventory:	99	No! Never. It's an operating asset.
Assets Held for Sale:	1,230	**Yes! Always.** It's the definition of a non-core-business Asset since it's about to be sold off!
Assets of Discontinued Businesses:	25,025	**Yes! Always.** It's the definition of a non-core-business Asset since it's about to be sold off!
Total Current Assets:	**31,087**	
Non-Current Assets:		
Property, Plant & Equipment:	3,209	No! Never. It's an operating asset.
Goodwill:	10,519	No! Never. It is an operating asset since it reflects the value of acquired companies.
Other Intangible Assets:	395	No! Never. It is an operating asset since it reflects the value of acquired companies.
Non-Current Content Assets:	2,528	No! Never. It's an operating asset (TV/films for a media company).
Investments in Equity Affiliates:	290	**Yes! Always.** This one is a non-core-business Asset, but it's also done for comparability.
Non-Current Financial Assets:	638	**Almost certainly**. But check the footnotes to make sure they really are "non-core."
Deferred Tax Assets:	667	**Maybe**! Need to read the footnotes and see… you sometimes subtract NOLs.
Total Non-Current Assets:	**18,246**	
Total Assets:	**€ 49,333**	

Example

Liabilities & Equity:		
Current Liabilities:		
Short-Term Debt and Borrowings:	€	3,934
Accounts Payable:		5,213
Current Tax Payables:		105
Current Provisions:		272
Liabilities of Discontinued Businesses:		8,272
Total Current Liabilities:		**17,796**
Non-Current Liabilities:		
Long-Term Debt and Borrowings:		8,309
Deferred Tax Liabilities:		685
Non-Current Provisions:		2,715
Other Non-Current Liabilities:		205
Total Non-Current Liabilities:		**11,914**
Total Liabilities:	€	**29,710**
Equity:		
Shareholders' Equity:		
Share Capital:		7,368
Additional Paid-In Capital:		8,381
Treasury Shares:		(22)
Retained Earnings and Other:		2,237
Total Shareholders' Equity:	€	**17,964**
Noncontrolling Interests:		1,659
Total Equity:	€	**19,623**
Total Liabilities & Equity:	€	**49,333**

Should You ADD It in the Equity Value --> Enterprise Value Calculation?
Yes! Always. Short-term borrowings represent another investor group (lenders).
No! Never. Constantly being accrued and then paid out in cash... not a long-term funding source.
No! Never. Constantly being accrued and then paid out in cash... not a long-term funding source.
Maybe! Need to review the footnotes; could potentially represent lenders.
Yes! Always. Needs to be netted against the *Assets* for Discontinued Businesses.
Yes! Always. Long-term debt is a funding source and represents another investor group (lenders).
No! Never. Just a temporary *timing difference* between cash and book taxes.
Maybe! Need to review the footnotes; could potentially represent other investors.
Maybe! Need to review the footnotes; could potentially represent other investors.
No! Never. You always use the Market Value of Equity, in other words Shares Outstanding * Share Price, to represent all these items and you skip what's on the Balance Sheet since the market value is more accurate.
Yes! Always. Represents another funding source, and done for comparability purposes.

A few items that deserve more explanation

- **Goodwill & Other Intangible Assets:** count as core-business if the acquired companies are still part of the operation
- **Deferred Tax Assets:** only subtract the NOL portion
- **Industry Specific Assets:** always count as core-business assets
- **Provisions & Other Liabilities:** not include if simply timing differences
- **Deferred Tax Liabilities:** never factor these in because they are simply timing differences

Equity investments & Noncontrolling interest

Equity Investments(AKA Associate Companies): assets that represents less than 50% stake in another company

- It is included in Equity Value because it reflects the value of all assets the company owns
- Should be subtracted when moving to enterprise value because:
  - They are non-core businesses assets
  - For comparability purposes; revenue will not reflect any contributions from associate company

Equity investments & Noncontrolling interest

The "Combined" Income Statement is exactly the same as the Parent's at first...

Combined Company:	Year 1
Revenue:	$ 400
Costs of Goods Sold:	136
Gross Profit:	**264**
Operating Expenses:	201
Depreciation & Amortization:	20
Operating Income:	**43**
Net Interest Expense:	(15)
Pre-Tax Income:	**28**
Income Taxes:	(10)
Equity Investment Earnings:	**2**
Net Income:	**20**

Parent Company:	Year 1
Revenue:	$ 400
Costs of Goods Sold:	136
Gross Profit:	**264**
Total Operating Expenses:	201
Depreciation & Amortization:	20
Operating Income:	**43**
Net Interest Expense:	(15)
Pre-Tax Income:	**28**
Income Taxes:	(10)
Net Income:	**18**

Associate Company:	Year 1
Revenue:	$ 100
Costs of Goods Sold:	25
Gross Profit:	**75**
Total Operating Expenses:	60
Depreciation & Amortization:	5
Operating Income:	**10**
Net Interest Expense:	-
Pre-Tax Income:	**10**
Income Taxes:	(4)
Net Income:	**7**

...But then you have to add the Associate Company's Net Income * Ownership Percentage at the bottom. So 30% * $7 = About $2 here.

Equity investments & Noncontrolling interest

Noncontrolling Interest: liability and equity line items that represents ownership of more than 50% but less than 100% of another company

The item itself represents the portion that the company does NOT own.

Add the value of Noncontrolling interests when moving from Equity value to Enterprise value.

Equity investments & Noncontrolling interest

Combined Company:	Year 1
Revenue:	$ 500
Costs of Goods Sold:	161
Gross Profit:	**339**
Operating Expenses:	261
Depreciation & Amortization:	25
Operating Income:	**53**
Net Interest Expense:	(15)
Pre-Tax Income:	**38**
Income Taxes:	(13)
Net Income:	**25**
Net Income Attributable to Noncontrolling Interests:	(2)
Net Income Attrib. to Parent:	**23**

Parent Company:	Year 1
Revenue:	$ 400
Costs of Goods Sold:	136
Gross Profit:	**264**
Total Operating Expenses:	201
Depreciation & Amortization:	20
Operating Income:	**43**
Net Interest Expense:	(15)
Pre-Tax Income:	**28**
Income Taxes:	(10)
Net Income:	**18**

Majority-Owned Company:	Year 1
Revenue:	$ 100
Costs of Goods Sold:	25
Gross Profit:	**75**
Total Operating Expenses:	60
Depreciation & Amortization:	5
Operating Income:	**10**
Net Interest Expense:	-
Pre-Tax Income:	**10**
Income Taxes:	(4)
Net Income:	**7**

100% consolidation down to Net Income...

...But then the Parent Company has to subtract out 30% * $7, or about $2, at the bottom to show *only* the Net Income it actually "owns."

Valuation Metrics

EBIT vs. EBITDA vs. Net Income

They all measure a company's profitability, and the corresponding multiples measure a company's value in relation to its profits.

They differ in 4 key respects:

1. To whom is the money available?
2. Operating expenses vs CapEx
3. Interest, taxes, and non-core business activities
4. When they are useful?

To whom is the money available?

EBIT and EBITDA are available to all investors & government because no one has been paid yet.

With Net Income, only equity investors have claims.

Therefore:

- EBIT & EBITDA corresponds to Enterprise Value
- Net Income corresponds to Equity Value

What does the metrics mean?

EBIT: Core, recurring business profitability, before the impact of capital structure and taxes; reflects operating expenses and after-effects of CapEx

EBITDA: Proxy for core, recurring business cash flow from operations, before the impact of capital structure and taxes; reflects only operating expenses

Net Income: Profits after tax, the impact of capital structure, and non-core activities; reflects everything

Which to use?

False premise: you have to use one specific metric or multiple

If pressed for an answer on specific metric/multiple to use:

- EBIT is better than EBITDA if you want to reflect the after-effects of CapEx
- EBITDA might be better in an industry where CapEx matter less
- Net Income and P / E multiples are generally not great to use for any company

	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

Types of Cash Flows

Variations of FCF

Free Cash Flow: Cash flow from operations - CapEx

- Common in stand-alone financial statement analysis to estimate a company's recurring cash flow

Unlevered Free Cash Flow: NOPAT + Non-cash adjustments and Changes in Working capital from CFS - CapEx

- Most common in DCF analysis & the cleanest way to estimate a company's value to all investors

Levered Free Cash Flow: Net income + Non-cash adjustments and Changes in Working capital from CFS - CapEx - Debt(Mandatory) repayments

- Quite rare, used in a different type of DCF analysis & assess a company's ability to service its debts

FCF Example

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)**

Unlevered FCF Example

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		
ided 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
anges 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)**

Levered FCF Example

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)**

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)

	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

Other metrics

EV/NOPAT: Most useful to factor in the significance difference in tax rates

EV/Invested Capital: How valuable a company is relative to the capital it has raised over the years; Most useful for companies in asset-intensive industries like manufacturing, airlines, etc

PEG ratio: P/E multiple divided by Net Income Growth rate; tells you how cheap or expensive a company is relative to its net income growth rate

P/BV: Equity value divided by common shareholders' equity; tells how the market value of a company's equity compares to its book value, and how efficiently it has used its capital