

Equity VALUATION

- Introduction to Industry and Company Analysis
- Intrinsic Value Calculation



























RV ROLLS-ROYCE HOLD Equity × +												,¢	\$ \$ ≡ 0	ptions _	. 0	×
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Aircraft & Parts	BI 74%		Pied						1000							
Engine & Transmission	EI 26%		Cor	nps Avg 23.8x					500							
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Overview Comp Sheets Markets E	EPS Preview	Ownershi	p Credit	Custom	*											
Name	Mkt Cap 1	Last Px	Chg Pct	Chg Pct	Rev - 1	EPS - 1	P/E	ROE	Dvd 12M							<u></u>
	(GBp)	(GBp)	1D	1M	Yr Gr:Y	Yr Gr:Y	440 54	2.270	Yld							_
	6./5B	51.90	-1.1/%	0./1%	-5.55%	-41.36%	148.51	2.26%	1.09%							
	8.10B	0.97	-1.89%	/.34%	-5.13%		05.53	1 5 49	0 429							
	30.11B	84.53	-1.82%	4.4/6	-9.01%	-00.97%	1.00K	1.54%	0.42%							
	27.32B	492.67	-1.30%	1./4%	-5.98%	-0.42%	51.73	17 0 49	1 4 70.							
	20.93B	98.09	0.80%	9.248	-4.09%	51.08%	25.78	14.77%	1.0/6							
	14.20D	2.25	-1.54%	-10.02%	4.40%	-2.42%	114 56	14.72%	0.126							
	9.00D	2.23 162.60	-4.40%	1 759	-Z.J40 5 319	20.42%	16 60	4.01%	0.51%							
	6 24B	102.09	-3.01%	-4 47%	-17 70%	-00 64%	49.05	6.06%	0.010							
	5 99B	7.65	-0.08%	1 73%	-11 57%		10.75	0.00%								
110) SAAB AB-B	3.80B	27.99	0.38%	14.22%	6.51%	811.96%	23.75	8.49%	1.36%							
111) ST SPIRIT AFROSYSTEMS HOLD-CL A	3.61B	34.32	-3.02%	6.38%	16.10%	47.23%		-55.30%	0.09%							
	3.57B	42.49	-1.34%	2.82%	-11.83%	-64.29%	150.13	2.12%	0.18%							
113) STAVICOPTER PLC-A	3.48B	5.90	-1.05%	-9.71%	10.86%	20.41%	31.69	9.89%	0.79%							
114) 🕤 AVICHINA INDUSTRY & TECH-H	3.27B	0.42	-2.03%	-3.33%	20.31%	36.31%	11.32	8.81%	1.40%							
115) 🕤 ULTRA ELECTRONICS HLDGS PLC	2.36B	33.08	-0.54%	3.83%	-1.06%	11.91%	35.19	18.36%	1.74%							
116) 🕤 AAR CORP	1.26B	35.90	-0.32%	7.12%	-20.26%	-39.62%	22.22	7.77%								
117) 🕤 TRIUMPH GROUP INC	1.21B	18.67	-0.61%	2.65%	-35.53%	-1.43k%	30.34									
118) 🕤 AECC AERO SCIENCE & TECHNO-A	829.86M	2.51	-1.51%	-8.37%	-19.58%			-0.36%								
119) 5 SENIOR PLC	527.63M	1.26	0.00%	2.28%	-10.21%	-88.12%	21.59	0.91%								
120) 🕤 DUCOMMUN INC	477.23M	39.86	-0.76%	3.80%	2.62%	6.66%	17.78	8.92%								
121) 🕤 Magellan Aerospace Corp	342.21M	5.93	-0.21%	-3.77%	-7.53%	-41.80%	863.68	0.09%	4.33%							,
(Accounting Adjustments: Adjusted for Al	bnormal Iter	ns When Ap	oplicable)		11 400	(2.000		1 4 1 70							Analyze	e List
Suggested Functions EEO Analyze a	company's c	onsensus es	stimates					C	Read the	latest news on a company	y					
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SPLC ▼ ROLLS-ROYCE HOLD Equity ▼ SPLC ▼ Related Functions Menu ≥			Message □ • ? •
RR/IN GRD 1 96 770 -1 890 ~~~~~ 196 740 /96 780	19195 x 3699		
At 18:26 d Vol 30 267 515 0 98 660 H 99 560 1 94 900	Val 2 922B		
DP / IN Equity Deers - Actions - Export -		12	Supply Chain Analysis
Viewing Rolls-Rovce Holdings DLC	As of $04/06/22$ H		Supply Chain Analysis
Analyze Latest Sales Surprise & GBP + Display Name	Gritters		
Show As 7) Chart 8) Table Sort By Company Exposure	Show Events None -		
MTU Aero Engines AG Rev: 8.34% COGS: 3.54% ① RR/ LN's Exp Suppliers are so Customers are so Cust	osure to Related Companies: rted by the cost (CDGS/CAPEX/SG&A/R&D) paid by RR/ LN. orted by the revenue RR/ LN gets from the customers. Xolls-Royce Holdings PLC RR/ UN ev. Quantified 48.25% Proprietary 48.25% QOS Quantified 0.03% Proprietary 0.91% &D Quantified 0.05% Proprietary 0.91% &D Quantified 0.05% -	19 Cutomer	Airbus SE Rev: 7.43% COGS: 1.93% ① United Kingdom of G Rev: 6.89% ① Boeing Co/The Rev: 3.26% COGS: 0.79% ① Delta Air Lines Inc Rev: 2.40% COGS: 1.08% ② Raytheon Technologi Rev: 2.17% COGS: 0.66% ③ Lockheed Martin Corp Rev: 1.89% COGS: 0.55% ③ Air France-KLM Rev: 1.69% COGS: 1.31% ③ United Airlines Hol Rev: 1.65% COGS: 0.97% ③ General Dynamics Co Rev: 1.45% COGS: 0.70% ③ China Southern Airl Rev: 1.41% COGS: 1.41% ③
ANSYS Inc			Turk Hava Yollari A0
Rev: 2.15% COGS: 0.44%			Rev: 0.84% COGS: 1.38% 🛈
I ransDigm Group Inc	23 Bloomberg Comps		Leonardo SpA
LG Electronics Inc			Qatar Airways QCSC
Rev: 0.08% CDGS: 0.40% ①			Rev: 0.80% COGS: 1.41% 🛈
Capgemini SE			Textron Inc
Safran SA			BAE Systems PLC
Rev: 0.25% COGS: 0.34% ①			Rev: 0.69% COGS: 0.47% ①
Parker-Hannifin Corp			Air China Ltd
Rev: 0.299 COS: 0.349 C			Deutsche Post AG
Rev: 2.88% COGS: 0.29% (Corp ARC Corp AECC Aero Science a Astronics Corp AVIC Xi'an Aircraft AviChina Industry &	AVICOPTER PLC CAE Inc Ducommun Inc HEICO Corp	Hexcel Corp Latecoere SACA Magellan Aerospace Meggitt PLC	Rev: 0.64% COGS: 0.11% ①
Analysis: Latest Sales Surprise Percentage -10 0 10			
Suggested Functions DES Study in-depth information on a security	ESG Environmenta	l, Social & Governance Analysis	racovní prostor Windows Ink
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Uses of Industry Analysis



Understanding a company's business and business environment



Identifying active equity investment opportunities

Approaches to Identifying Similar Companies



Cyclical vs. Defensive

US Automobile vs. Beverages performance /Recession Periods (US)



Cyclical vs. Defensive



Myth of correlation



Cyclical and Noncyclical Companies



Framework for Industry Analysis



Industry Life Cycle



Time

Source: Based on Figure 2.4 in Hill and Joines (2008).







Macroeconomic Influences on Industry Growth, Profitability, and Risk



Industry Analysis for Branded Pharmaceuticals

Major Companies	Pfizer, Novartis, Merck, GlaxoSmithKline
Barriers to	Very High: Substantial financial and intellectual capital required to compete
Entry/Success	effectively. A potential new entrant would need to create a sizable R&D
-	operation, a global distribution network, and large-scale manufacturing capacity.
Level of	Concentrated: A small number of companies control the bulk of the global
Concentration	market for branded drugs. Recent mergers have increased the level of
	concentration.
Impact of Industry	Not applicable: Pharmaceutical pricing is primarily determined by patent
Capacity	protection and regulatory issues, including government approval of drugs and
	manufacturing facilities. Manufacturing capacity is of little importance.
Industry Stability	Stable: The branded pharmaceutical market is dominated by major companies
	and consolidation via mega-mergers. Market shares shift quickly, however, as
	new drugs are approved and gain acceptance or lose patent protection.
Life Cycle	Mature: Overall demand does not change greatly from year to year.
Price Competition	Low/Medium: In the United States, price is a minimal factor because of the
	consumer- and provider-driven, deregulated health care system. Price is a larger
	part of the decision process in single-payer systems, where efficacy hurdles are
	higher.
Demographic	Positive: Populations of developed markets are aging, which slightly increases
Influences	demand.
Government &	Very High: All drugs must be approved for sale by national safety regulators.
Regulatory	Patent regimes may differ among countries. Also, health care is heavily
Influences	regulated in most countries.
Social Influences	Not applicable.
Technological	Medium/High: Biologic (large-molecule) drugs are pushing new therapeutic
Influences	boundaries, and many large pharmaceutical companies have a relatively small
	presence in biotech.
Growth vs.	Defensive: Demand for most health care services does not fluctuate with the
Defensive vs.	economic cycle, but demand is not strong enough to be considered "growth."
Cyclical	

Industry Analysis for Confections/Candy

Major Companies	Cadbury, Hershey, Mars/Wrigley, Nestle
Barriers to	Very High: Low financial or technological hurdles, but new players would lack
Entry/Success	the established brands that drive consumer purchase decisions.
Level of	Very Concentrated: Top four companies have a large proportion of global
Concentration	market share. Recent mergers have increased the level of concentration.
Impact of Industry	Not applicable: Pricing is driven primarily by brand strength. Manufacturing
Capacity	capacity has little effect.
Industry Stability	Very Stable: Market shares change glacially.
Life Cycle	Very Mature: Growth is driven by population trends and pricing.
Price Competition	Low: A lack of private-label competition keeps pricing stable among
	established players, and brand/familiarity plays a much larger role in consumer
	purchase decisions than price.
D 1'	NT 4
Demographic	Not applicable.
Influences	Not applicable.
Influences Government &	Low: Industry is not regulated, but childhood obesity concerns in developed
Influences Government & Regulatory	Low: Industry is not regulated, but childhood obesity concerns in developed markets are a low-level potential threat. Also, high-growth emerging markets
Influences Government & Regulatory Influences	Not applicable. Low: Industry is not regulated, but childhood obesity concerns in developed markets are a low-level potential threat. Also, high-growth emerging markets may block entry of established players into their markets, possibly limiting
Influences Government & Regulatory Influences	Not applicable. Low: Industry is not regulated, but childhood obesity concerns in developed markets are a low-level potential threat. Also, high-growth emerging markets may block entry of established players into their markets, possibly limiting growth.
Demographic Influences Government & Regulatory Influences Social Influences	Not applicable. Low: Industry is not regulated, but childhood obesity concerns in developed markets are a low-level potential threat. Also, high-growth emerging markets may block entry of established players into their markets, possibly limiting growth. Not applicable.
Demographic Influences Government & Regulatory Influences Social Influences Technological	Not applicable. Low: Industry is not regulated, but childhood obesity concerns in developed markets are a low-level potential threat. Also, high-growth emerging markets may block entry of established players into their markets, possibly limiting growth. Not applicable. Very Low: Innovation does not play a major role in the industry.
Demographic Influences Government & Regulatory Influences Social Influences Technological Influences	Not applicable. Low: Industry is not regulated, but childhood obesity concerns in developed markets are a low-level potential threat. Also, high-growth emerging markets may block entry of established players into their markets, possibly limiting growth. Not applicable. Very Low: Innovation does not play a major role in the industry.
Demographic Influences Government & Regulatory Influences Social Influences Technological Influences Growth vs.	Not applicable. Low: Industry is not regulated, but childhood obesity concerns in developed markets are a low-level potential threat. Also, high-growth emerging markets may block entry of established players into their markets, possibly limiting growth. Not applicable. Very Low: Innovation does not play a major role in the industry. Defensive: Demand for candy and gum is extremely stable.
Demographic Influences Government & Regulatory Influences Social Influences Technological Influences Growth vs. Defensive vs.	Not applicable. Low: Industry is not regulated, but childhood obesity concerns in developed markets are a low-level potential threat. Also, high-growth emerging markets may block entry of established players into their markets, possibly limiting growth. Not applicable. Very Low: Innovation does not play a major role in the industry. Defensive: Demand for candy and gum is extremely stable.

Estimated Value and Market Price



Major Categories of Equity Valuation Models

Present value models

- Dividend discount models
- Free cash flow models

Multiplier models

- Share price multiples
- Enterprise value multiples

Asset-based valuation models

 Adjustments to book value

wacc CITIGROUP INC Equity \times +			A $C \equiv Options _ \square \times$
< > CITIGROUP INC Equity ▼ WACC ▼ Relat	ed Functions Menu ≈		Message □
C US \$ ↓ 50.505 -1.075 ~	K50.50/50.51N 74×30		
🕦 At 18:28 d Vol 8,945,908	3 0 51.01Y H 51.09⊤ L 50.43D Val	454.105M	
C US Equity 1) Create Report	2) Output to Excel		Weighted Average Cost of Capital
	Citigroup Inc	Period MR 2021Q4	
	Cost of Capital - Current Market Value	Capital Structure (Millions of USD)	
	Weight Cost W x C	Market Cap 119835	2 19.7%
	3) Equity 19.7% 10.3% 2.0%	ST Debt 213209.	0 35.0%
	4) Debt Cost (A-T) 77.2% 2.8% 2.2%	LT Debt 256727,	0 42.2%
	5) Preferred Equity 3.1% 5.5% 0.2%	Pref. Eqty 18995,	0 3.1%
	WACC 4.4%	Total 608766,	2 100.0%
	6) History	Economic Value Added (Millions of USD)	
	🗹 WACC 🔲 EVA 🔲 ROIC 🔲 EVA Spread	7) Net Operating Profit	23671,00
	+ Track ∠ Annotate ़, Zoom	8) Cash Operating Taxes	5400,00
	5.00 WACC 4.3622	NOPAT	18271,00
	4 50	() Total Investment Capital	664450.00
		Gapital Charge	28984.88
		capital charge	20704,00
	3.50	Economic Value Added	-10713,88
	3.00-		
	2.50	ROIC	2.75%
	2013 2014 2015 2016 2017 2018 2019 2020 2021	EVA Spread	-1.61%
Suggested Functions GP Chart securities &	technical studies	MOST See today's most active stocks	Pracovní prostor Windows Ink.
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AAPL US \$ C 171.83 -3.23	G171.54/	171.590 1×2	21				
📶 🔐 On O6 Apr d Vol 89,058,782	0 172.36D H 173.6	3Q L 170.13K Va	al 15.306B				
AAPL US Equity 1) Create Report 2	Output to Excel					Weighted Average Cost o	f Capital
	Apple Inc	t Market Value	Pe Conital Struct	eriod MR v 2022	Q1		
	Cost of Capital - Curren			ure (millions of 05)		
	a) Equity	Veight Cost W		Market Cap	2880565,2 95.9%		
	4) Debt Cost (A-T)	4.1% 2.4% (1%	IT Debt	106629.0 3.6%		
	5) Preferred Equity	0.0% 0.0% 0	0.0%	Pref. Eqty	0,0 0.0%		
	WACC	, g	9.6%	Total	3003363,2 100.0%		
	6) History		Economic Valu	e Added (Millions	of USD)		
	🗹 WACC 📃 EVA 🗌 ROIC 🗌	EVA Spread	7) Net Operat	ing Profit	116903,00		
	11.00	notate 🔍 Zoom	8) Cash Opera	iting Taxes	11402,75		
	10.50 WACC 9.819		NUPAT		105500,25		
	9.619		🔨 🦻 Total Inves	stment Capital	194730,00		
		/ // / /	Capital Cha	irge	18731,04		
	8.50	\sim	Economic V	babbA aufe)	86760 21		
	8.00	۲ <i>L</i>		alue Auleu	80709,21		
	7.50 - V		ROIC		54.18%		
	2013 2014 2015 2016	2017 2018 2019 2020 202	EVA Spread		44.56%		
Suggested Functions WB Compare sovereign	debt data on one screen			FIRS Read bulleted su	mmaries of breaking news		
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Present Value Models





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At 18.29 d Vol 1 465 13	6 0 127 78N	H 120 40	D 12	7 25K Val 1	88 146M						
IPM US Equity		127.17			00.11011				Divide	nd/Snlit (Summary
IBM 05 Equity Settings	International Ruci	noss Machinos (orn						C Divide	nu/ spin s	burninary
	Range 2012	- 2022	Jorp	Adjust for Capit	al Change		Currency USD	.			
	Hunge 2012	2022					durrenty 000				
	12 Month Yield		5.10	0% 7.00 + 12mth Div 6.56		rack 🗵 Annotate 🔍 Zoom,	**********	♦ 6.50			
	Indicated Yield		5.10)% 6.00 Yield 5.045				-6.00			
	1 Yr Dividend G	rowth	0.61	1% 5.00-	(And the second s		\sim \sim	5.00			
	3 Yr Dividend G	rowth	1.40	5% ++	- martin	~		4.50			
	5 Yr Dividend G	rowth	3.22	28 3.00				3.50			
	Last Price		USD 128.7	70 2.00	11' h- 10'0- 11' h- 10'0- 11' h	- 10'0- 20' - 10'0- 20' - 20'0- 11' 3	- 18 0 11 N- 10 0 11 N- 10 0	3.00			
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	12) 02/01/22	02/10/22	02/11/22	03/10/22 USD	1.64 Regular	Cash					
	13) 10/26/21	11/09/21	11/10/21	12/10/21 USD	1.64 Regular	Cash					
	14) 10/08/20	11/04/21	10/25/21	11/03/21	1 per 5 Spinoff						
	15) 07/27/21	08/09/21	08/10/21	09/10/21 USD	1.64 Regular	Cash					
	16) 04/27/21	05/07/21	05/10/21	06/10/21 USD	1.64 Regular	Cash					
	17) 01/26/21	02/09/21 (02/10/21	03/10/21 USD	1.63 Regular	Cash					
	18) 10/27/20	11/09/20	11/10/20	12/10/20 USD	1.63 Regular	Cash					
	19) 07/28/20	08/07/20	08/10/20	09/10/20 USD	1.63 Regular	Cash					
	20) 04/28/20	05/07/20	05/08/20	06/10/20 USD	1.63 Regular	Cash					
	21) 01/28/20	02/07/20	02/10/20	03/10/20 USD	1.62 Regular	Cash					
	22) 10/29/19	11/07/19	11/08/19	12/10/19 USD	1.62 Regular	Cash					
	23) 07/30/19	08/08/19	08/09/19	09/10/19 USD	1.62 Regular	Cash					
	24) 04/30/19	05/09/19 (05/10/19	06/10/19 USD	1.62 Regular	Cash					
	25) 01/29/19	02/07/19	02/08/19	03/09/19 USD	1.57 Regular	Cash					
	20 10/30/18	11/08/18	11/09/18	12/10/18 USD	1.57 Regular	Cash					
	2/) 0//31/18	08/09/18	08/10/18	09/10/18 USD	1.5/Regular	Cash					
	28) 04/24/18	05/09/18	05/10/18	06/09/18 USD	1.57 Regular	Cash					
	29) 01/30/18	02/08/18 (J2/09/18	03/10/18 USD	1.50 Regular	Cash					
	30 10/31/1/	11/09/17	11/10/17	12/09/17 USD	1.50 Regular	Cash					
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	30 10/31/1/	11/08/16	11/10/16	12/10/16 USD	1.40 Regular	Cash					
	35) 07/26/16	08/08/16	11/10/10	09/10/16 USD	1.40 Regular	Cash					
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Suggested Functions CN Read the latest r	news on a company					HDS Find the holders i	influencing price		Basser	and Monday a	
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International Business Machines Dividend Yield, History & Payout Ratio



25

Apple Dividend Yield, History & Payout Ratio





The Gordon Growth Model

Assumptions:

- Dividends are the correct metric to use for valuation purposes.
- The dividend growth rate is forever: It is perpetual and never changes.
- The required rate of return is also constant over time.
- The dividend growth rate is strictly less than the required rate of return.

$$V_0 = \sum_{t=1}^{\infty} \frac{D_0 (1+g)^t}{(1+r)^t} = \frac{D_0 (1+g)}{r-g} = \frac{D_1}{r-g}$$
$$V_0 = \frac{\text{EUR5.00}(1+0.04)}{0.08-0.04} = \text{EUR130}$$

When Is the Gordon Growth Model Most Appropriate for Valuing Equity?



Estimating a Long-Term Growth Rate



Decomposition of ROE



Multistage Dividend Discount Model



The Two-Stage Dividend Discount Model

Dividends grow at rate g_S for *n* years and rate g_L thereafter:

$$V_{0} = \sum_{t=1}^{n} \frac{D_{0} (1 + g_{S})^{t}}{(1 + r)^{t}} + \frac{V_{n}}{(1 + r)^{n}}$$
$$V_{n} = \frac{D_{n+1}}{r - g_{L}}$$
$$D_{n+1} = D_{0} (1 + g_{S})^{n} (1 + g_{L})$$

The Two-Stage Dividend Discount Model (continued from previous slide)

$$D_{1} = \$5.00(1+0.10) = \$5.50$$

$$D_{2} = \$5.00(1+0.10)^{2} = \$6.05$$

$$D_{3} = \$5.00(1+0.10)^{3} = \$6.655$$

$$D_{4} = \$5.00(1+0.10)^{3}(1+0.05) = \$6.98775$$

$$V_{3} = \frac{\$6.98775}{0.15-0.05} = \$69.8775$$

$$V_{0} = \frac{\$5.50}{1+0.15} + \frac{\$6.05}{(1+0.15)^{2}} + \frac{\$6.655}{(1+0.15)^{3}} + \frac{\$69.8775}{(1+0.15)^{3}}$$

$$V_{0} \approx \$59.68$$

Price Multiples

Group or sector of stocks

Use price multiples as a screen

Identify overvalued and undervalued stocks

Popular Price Multiples

Price-to-earnings ratio (P/E)	 Stock price ÷ earnings per share
Price-to-book ratio (P/B)	 Stock price + book value per share
Price-to-sales ratio (P/S)	 Stock price ÷ sales per share
Price-to-cash flow ratio (P/CF)	 Stock price ÷ cash flow per share

Price Multiples for Telefónica and Deutsche Telekom

	Т	elefónica	L	Deut	sche Telek	tom
	2008	2007	2006	2008	2007	2006
(1) Total assets (€ billions)	99.9	105.9	109.0	123.1	120.7	130.2
Asset growth	-5.7%	-2.8%		2.0%	-7.3%	
(2) Net revenues (€ billions)	57.9	56.4	52.9	61.7	62.5	61.3
Revenue growth	2.7%	6.6%		-1.3%	2.0%	
(3) Net cash flow from operating activities (€ billions)	16.4	15.6	15.4	15.4	13.7	14.2
Cash flow growth	5.1%	1.3%		12.4%	-3.5%	
(4) Book value of common	19.6	22.9	20.0	43.1	45.2	49.7
shareholders' equity (€ billions)						
Debt ratio:	80.4%	78.4%	81.7%	65.0%	62.6%	61.8%
$1 - [(4) \div (1)]$						
(5) Net profit (€ billions)	7.8	9.1	6.6	1.5	0.6	3.2
Earnings growth	-14.3%	37.9%		150.0%	-81.3%	
(6) Weighted average number of shares outstanding (millions)	4,646	4,759	4,779	4,340	4,339	4,353
(7) Price per share (€)	15.85	22.22	16.22	10.75	15.02	13.84
Price-to-revenue ratio (P/R):						
$(7) \div [(2) \div (6)]$	1.3	1.9	1.5	0.8	1.0	1.0
P/CF:						
$(7) \div [(3) \div (6)]$	4.5	6.8	5.0	3.0	4.8	4.2
<i>P/B</i> :						
$(7) \div [(4) \div (6)]$	3.8	4.6	3.9	1.1	1.4	1.2
P/E:						
$(7) \div [(5) \div (6)]$	9.4	11.6	11.7	31.1	108.6	18.8

Sources: Company websites: www.telefonica.es and www.deutschetelekom.com.

Justified Value of a Multiple

Fundamentals or cash flow predictions

Discounted cash flow model

Justified value of a multiple

Justified Forward P/E for Nestlé

Required Rate of Return = 12 percent

Constant Dividend		Divider	nd Payor	ut Ratio	
Growth Rate	40.0%	42.5%	45.0%	47.5%	50.0%
7.0%	8.0	8.5	9.0	9.5	10.0
7.5%	8.9	9.4	10.0	10.6	11.1
8.0%	10.0	10.6	11.3	11.9	12.5
8.5%	11.4	12.1	<mark>12.9</mark>	13.6	14.3
9.0%	13.3	14.2	15.0	15.8	16.7
9.5%	16.0	17.0	18.0	19.0	20.0
10.0%	20.0	21.3	22.5	23.8	25.0
10.5%	26.7	28.3	30.0	31.7	33.3

$$P_0 = \frac{D_1}{r-g} \stackrel{\text{algebra}}{\Rightarrow} \frac{P_0}{E_1} = \frac{D_1 / E_1}{r-g} = \frac{p}{r-g} = \frac{0.45}{0.12 - 0.085} \approx 12.9$$

The Method of Comparables



Price-to-Sales Ratio Data for Major Automobile Manufacturers (2009)

Company	P/S
General Motors	0.01
Ford Motor	0.14
Daimler	0.27
Nissan Motor	0.32
Honda Motor	0.49
Toyota Motor	0.66

P/E Data for Canon

	Price	EPS	P/E
Year	(a)	(b)	$(a) \div (b)$
2004	¥5,546	¥387.8	14.3
2005	¥6,883	¥432.9	15.9
2006	¥6,703	¥342.0	19.6
2007	¥5,211	¥377.6	13.8
2008	¥2,782	¥246.2	11.3

Sources: EPS and P/E data are from Canon's website: www.canon.com. P/E is based on share price data from the Tokyo Stock Exchange.

Enterprise Value Multiples



EV/Operating Income Data for Nine Major Mining Companies

			Operating	
	Ticker	EV	Income (OI)	
Company	Symbol	(C\$ millions)	(C\$ millions)	EV/OI
BHP Billiton	BHP	197,112.00	9,794.00	20.1
Rio Tinto	RIO	65,049.60	7,905.00	8.2
Anglo American	AAL	48,927.30	6,208.00	7.9
Barrick Gold	ABX	35,288.00	1,779.00	19.8
Goldcorp	G	28,278.00	616.66	45.9
Newmont Mining	NEM	22,040.80	1,385.00	15.9
AngloGold Ashanti	AU	19,918.30	-362.00	-55.0
Alcoa	AA	17,570.40	4,166.00	4.2
Freeport-McMoRan Copper & Gold	FCX	11,168.40	2,868.75	3.9

Source: www.miningnerds.com

Advantages and Disadvantages



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(BI Peers)	(USD)		EBITDA	FY1	FY2					Yield			
Average	1.04T	986.46B	13.08	11.77	11.30	20.07	18.73	17.31	25.21	1.05%			
	2.78T	2.70T	21.84	20.39	19.73	28.28	27.73	25.99	27.68	0.52%			
102) T SAMSUNG ELECTRUNICS CU LTD	335.6/B	254.16B	4.31	3.15	2.88	11.86	9.74	8.62	22.74	1.58%			
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102) SAMSUNG ELECTRONICS CO LTD	18.07%	29.48% 30	72% 18.47%	50.12%	13.96%	16.85%	11.55%	9.70%	12.17%			
103) 되 HTC CORP	-9.52%	36.36% -70	99% -78.36%	44.12%	-63.95%	1.91%	-14.56%	-7.53%	-11.76%			
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Return Potential 12.0%	
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Showing 54 of 59 sources	
Firm Analyst Recommendation Tgt Px Date 1 Yr Rtn BARR Rank	
1) 🖬 🚰 Bernstein 🛛 Toni Sacconaghi "A market perform 170.00 04/06/22 0.00%	
2) 🔤 🖺 Piper Sandler & Co Harsh V Kumar overweight 200.00 04/06/22 39.87% 1 🔀	
3) Morgan Stanley Kathryn Lynn Hube Overwt/Cautious 210.00 04/04/22 39.87% 1 11	
4) Loop Capital Marke Ananda Baruah buy 210.00 04/04/22 21.33% 5 18 🗠	
5) Vercore ISI Amit Daryanani outperform 210.00 04/04/22 39.87% 1 13	
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7) KGI Securities Co L., Christine Wang outperform 2200.00 00/201/222 38.59% 2	
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9 Science Investm Matthew Goodman no rating system 03/28/22	
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Suggested Functions GP Chart securities & technical studies EQRV See who's trading rich or cheap	
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