



Basic Structure of Investment Process and Valuation

Professor Bruce Greenwald

 **Columbia Business School**



Value Investing Principles

- Identify enterprises whose value as a business is reliably calculable by you (circle of competence)
- Among those enterprises, invest in those whose market price (equity plus debt) is below your calculated value by an appropriate margin of safety (1/3 to 1/2)



Value Investing Process

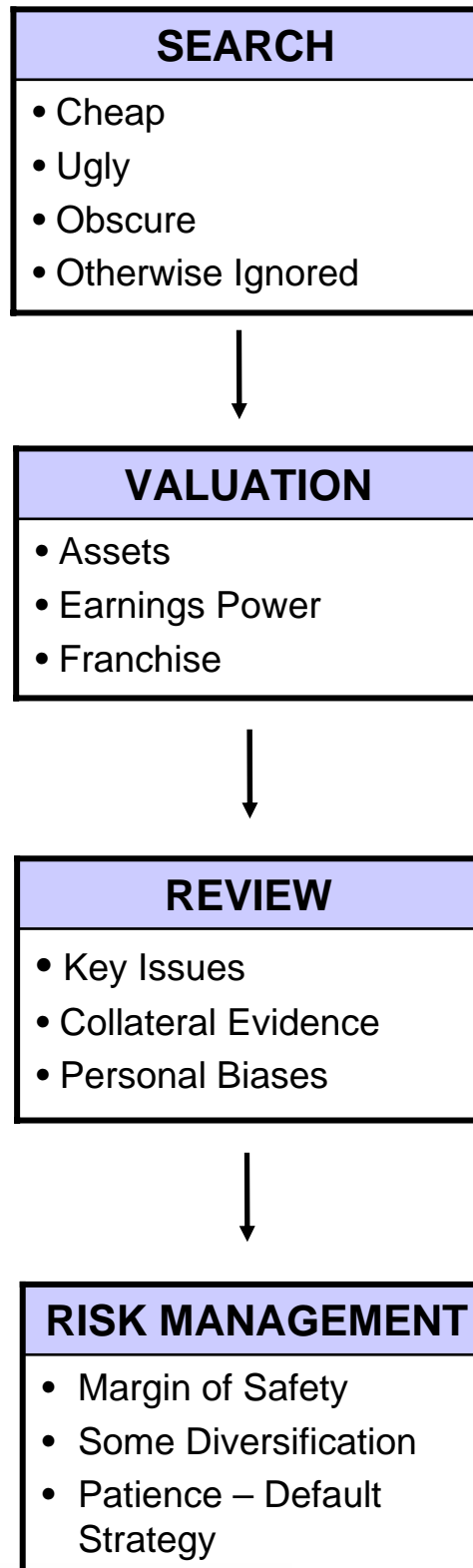




Table V

**Average Monthly Returns on Portfolios Formed on Size and
Book-to-Market Equity; Stocks Sorted by ME (Down) and then
BE/ME (Across): July 1963 to December 1990**

In June of each year t , the NYSE, AMEX, and NASDAQ stocks that meet the CRSP COMPUSTAT data requirements are allocated to 10 size portfolios using the NYSE size (ME) breakpoints. The NYSE, AMEX, and NASDAQ stocks in each size decile are then sorted into 10 BE/ME portfolios using the book-to-market ratios for year $t - 1$. BE/ME is the book value of common equity plus balance-sheet deferred taxes for fiscal year $t - 1$, over market equity for December of year $t - 1$. The equal-weighted monthly portfolio returns are then calculated for July of year t to June of year $t + 1$.

Average monthly return is the time-series average of the monthly equal-weighted portfolio returns (in percent).

The All column shows average returns for equal-weighted size decile portfolios. The All row shows average returns for equal-weighted portfolios of the stocks in each BE/ME group.

	Book-to-Market Portfolios										
	All	Low	2	3	4	5	6	7	8	9	High
All	1.23	0.64	0.98	1.06	1.17	1.24	1.26	1.39	1.40	1.50	1.63
Small-ME	1.47	0.70	1.14	1.20	1.43	1.56	1.51	1.70	1.71	1.82	1.92
ME-2	1.22	0.43	1.05	0.96	1.19	1.33	1.19	1.58	1.28	1.43	1.79
ME-3	1.22	0.56	0.88	1.23	0.95	1.36	1.30	1.30	1.40	1.54	1.60
ME-4	1.19	0.39	0.72	1.06	1.36	1.13	1.21	1.34	1.59	1.51	1.47
ME-5	1.24	0.88	0.65	1.08	1.47	1.13	1.43	1.44	1.26	1.52	1.49
ME-6	1.15	0.70	0.98	1.14	1.23	0.94	1.27	1.19	1.19	1.24	1.50
ME-7	1.07	0.95	1.00	0.99	0.83	0.99	1.13	0.99	1.16	1.10	1.47
ME-8	1.08	0.66	1.13	0.91	0.95	0.99	1.01	1.15	1.05	1.29	1.55
ME-9	0.95	0.44	0.89	0.92	1.00	1.05	0.93	0.82	1.11	1.04	1.22
Large-ME	0.89	0.93	0.88	0.84	0.71	0.79	0.83	0.81	0.96	0.97	1.18

controlling for size, book-to-market equity captures strong variation in average returns, and controlling for book-to-market equity leaves a size effect in average returns.

B. The Interaction between Size and Book-to-Market Equity

The average of the monthly correlations between the cross-sections of $\ln(\text{ME})$ and $\ln(\text{BE}/\text{ME})$ for individual stocks is -0.26 . The negative correlation is also apparent in the average values of $\ln(\text{ME})$ and $\ln(\text{BE}/\text{ME})$ for the portfolios sorted on ME or BE/ME in Tables II and IV. Thus, firms with low market equity are more likely to have poor prospects, resulting in low stock prices and high book-to-market equity. Conversely, large stocks are more likely to be firms with stronger prospects, higher stock prices, lower book-to-market equity, and lower average stock returns.

The correlation between size and book-to-market equity affects the regressions in Table III. Including $\ln(\text{BE}/\text{ME})$ moves the average slope on $\ln(\text{ME})$ from -0.15 ($t = -2.58$) in the univariate regressions to -0.11 ($t = -1.99$) in the bivariate regressions. Similarly, including $\ln(\text{ME})$ in the regressions



Systematic Biases

1. Institutional

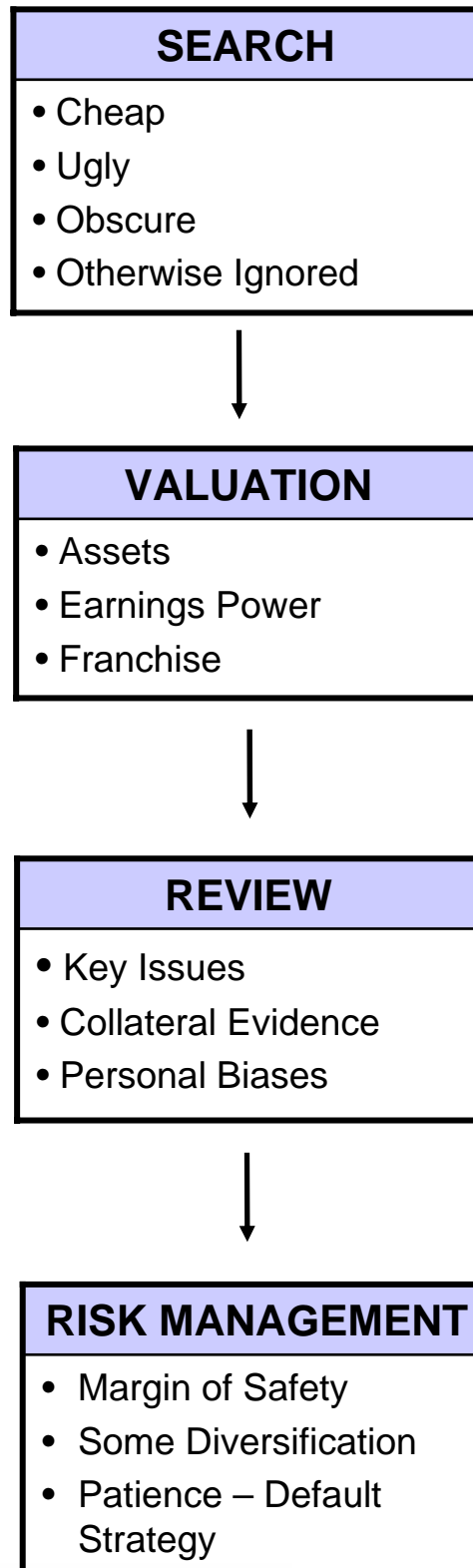
- **Herding – Minimize Deviations**
- **Window Dressing (January Effect)**
- **Blockbusters**

2. Individual

- **Loss Aversion**
- **Hindsight Bias**
- **Lotteries**



Value Investing Process





Valuation Approaches – Ratio Analysis

Cash Flow Measure x Multiple

Earnings

(Maint. Inv. = Depr + A)

EBIT

(Maint. Inv. = Depr + A; Tax = 0)

EBIT - A

(Maint. Inv. = Depr only)

EBIT-DA

(Maint. Inv. = 0)

Depends on:

- Economic position
- Cyclical situation
- Leverage
- Mgmt. Quality
- Cost of Capital (Risk)
- Growth

Range of Error (100%+)

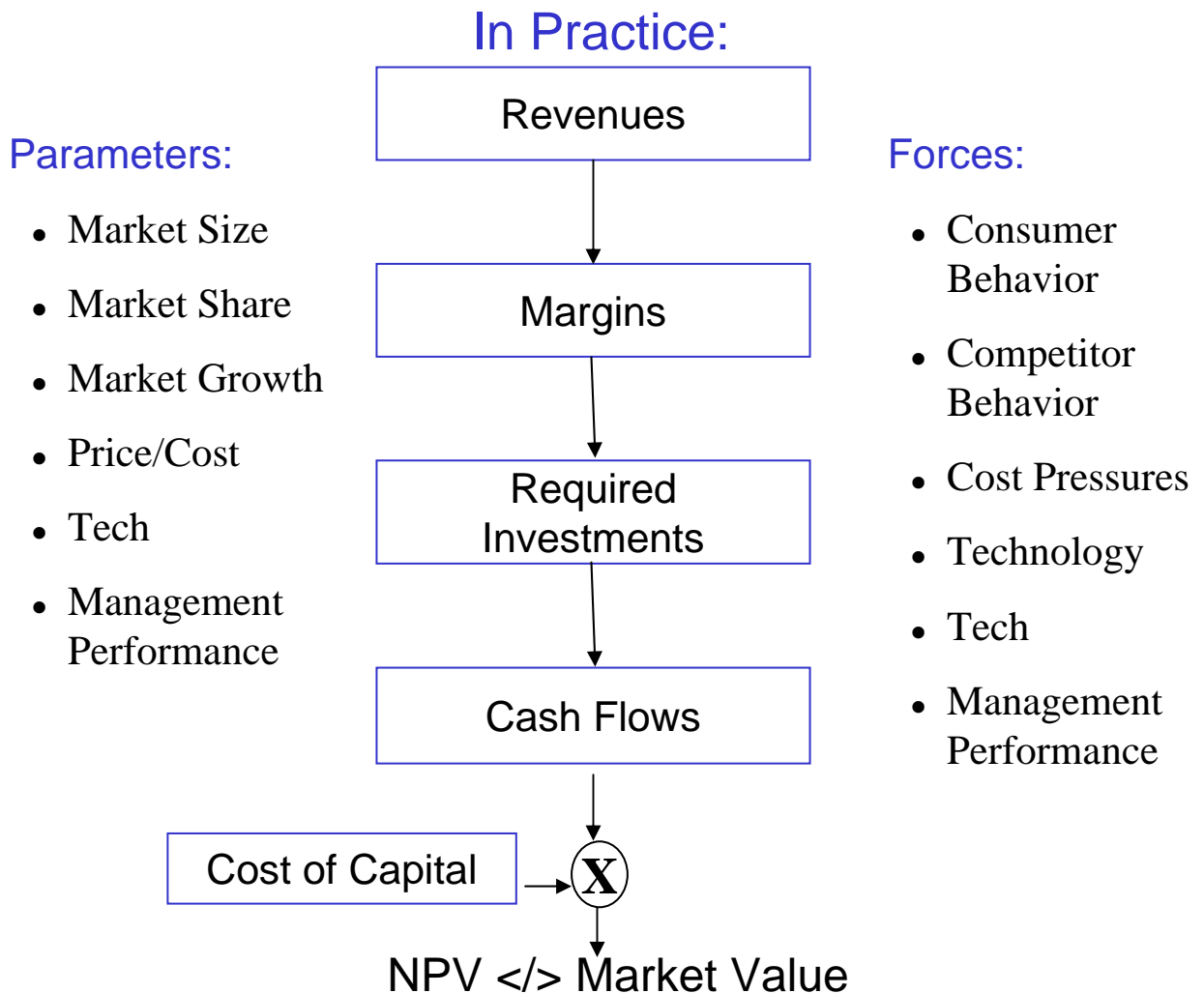
Valuation Approaches

Net Present Value of Cash Flow

$$\text{Value} = \sum_{t=0}^{\infty} \text{CF}_t \left(\frac{1}{1+R} \right)^t = \text{CF}_0 * \frac{1}{R-g}$$

Note: NPV Analysis encompasses **ratio analysis**
(NPV diseases are ratio analysis diseases)

Note: NPV is **theoretically** correct



Shortcomings of NPV Approach in Practice

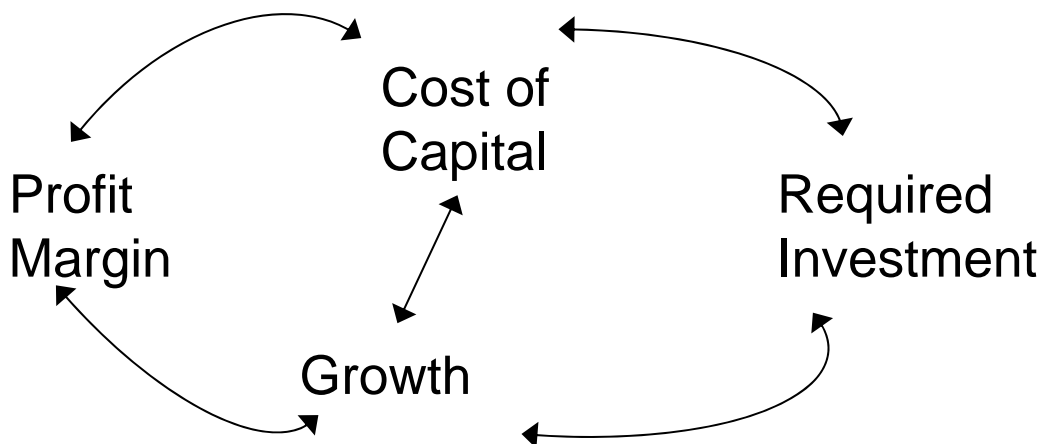
(1) Method of Combining Information

$$NPV = CF_0 + CF_1 \left(\frac{1}{1+R} \right) + \dots + CF_{20} \left(\frac{1}{1+R} \right)^{20} + \dots$$

Good Information (Precise)
Bad Information (Imprecise)

= Bad/Imprecise Information

(2) Sensitivity Analysis is Based on Difficult-to-Forecast Parameters which co-vary in fairly complicated ways



Valuation Assumptions

Traditional:

- Profit rate 6%
- Cost of capital 10%
- Investment/sales 60%
- Profit rate +3% (i.e. 9%)
- Growth rate 7% of sales, profits

Strategic:

- Industry is economically viable
- Entry is “Free” (no incumbent competitive advantage)
- Firm enjoys sustainable competitive advantage
- Competitive advantage is stable, firm grows with industry



Value Investing

Basic Approach to Valuation

“Know what you know”; Circle of competence

1. Organize valuation components by reliability

Most Reliable \longrightarrow *Least Reliable*

2. Organize valuation components by underlying strategic assumption

No Competitive Advantage \longrightarrow *Growing Competitive Advantage*



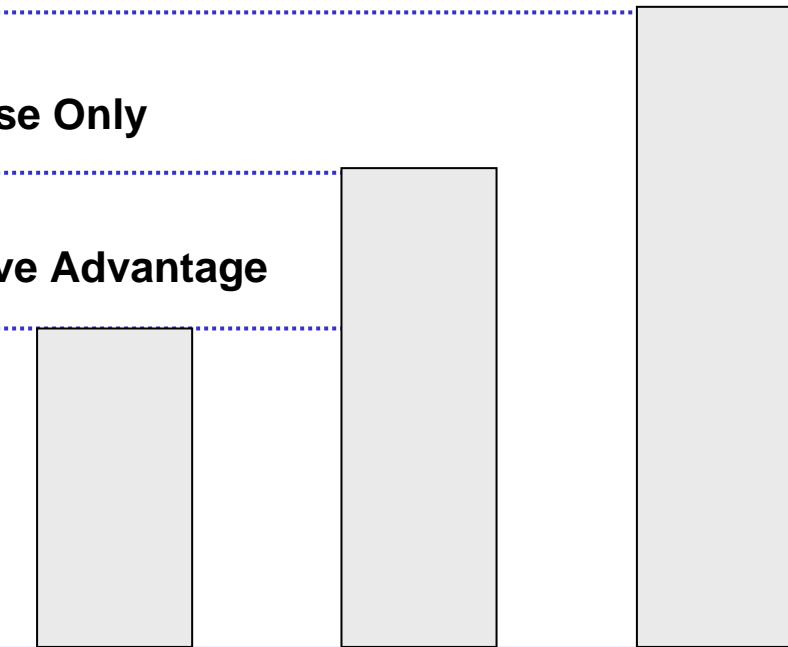
Basic Elements of Value

Strategic Dimension

Growth in Franchise Only

Franchise Value
Current Competitive Advantage

Free Entry
No Competitive Advantage



Asset Value

Earnings Power Value

Total Value

Reliability Dimension

- Tangible
- Balance Sheet Based
- No Extrapolation

- Current Earnings
- Extrapolation
- No Forecast

- Includes Growth
- Extrapolation
- Forecast



Industry Entry - Exit

Industry	Market Value	Net Asset Value	Entry
Chemicals (Allied)	\$2B	\$1B	Yes (P ↓ MV ↓)
	\$1.5B	\$1B	Yes
	\$1.0B	\$1B	Stop
Automobiles (Ford)	\$40B	\$25B	Yes (Sales ↓ MV ↓)
	\$30B	\$25B	Yes
	\$25B	\$25B	Stop
Internet	\$10B	\$0.010B	?

Remember, Exit is Slower than Entry.



Asset Value

Assets	Basic Graham-Dodd Value	Reproduction Value
Cash	Book	Book
Accounts Receivable	Book	Book + Allowance
Inventories	Book	Book + LIFO
PPE	0	Orig Cost ± Adj
Product Portfolio	0	Years R & D
Customer Relationships	0	Years SGA
Organization	0	
Licenses, Franchises	0	Private Mkt. Value
Subsidiaries	0	Private Mkt. Value
Liabilities		
A/P, AT, AL	Book	Book
Debt	Book	Fair Market
Def Tax, Reserves	Book	DCF
Bottom Line	Net Net Wk Cap	Net Repro Value



Earning Power Value

- Basic Concept – Enterprise value based on this years “Earnings”
- Measurement
 - Earnings Power Value = “Earnings” * $\frac{1}{\text{Cost of capital}}$
- Second most reliable information earnings today
- Calculation
 - “Earnings” – Accounting Income + Adjustments
 - Cost of Capital = WACC (Enterprise Value)
 - Equity Value = Earnings Power Value – Debt.
- Assumption:
 - Current profitability is sustainable



“Earning Power” Calculation

- (1) Start with “Earnings” not including accounting adjustments (one-time charges not excluded unless policy has changed)
- (2) “Earnings” are “Operating earnings” (EBIT)
- (3) Look at average margins over a business/Industry cycle (at least 5 – years)
- (4) Multiply average margins by sustainable (usually current) revenues
 - This yields “normalized” EBIT
- (5) Multiply by one minus Average tax rate (no pat)
- (6) Add back excess depreciation (after tax at $\frac{1}{2}$ average tax rate)
 - This yields “normalized” Earnings
- (7) Add adjustments for unconsolidated subs, problem being fixed, pricing power, etc



Earnings Power Value

EPV Business Operations = Earnings Power x 1/WACC

EPV Company = EPV Business Operations
+
Excess Net Assets
(+cash, +real estate, - legacy costs)

EPV Equity = EPV Company – Value Debt

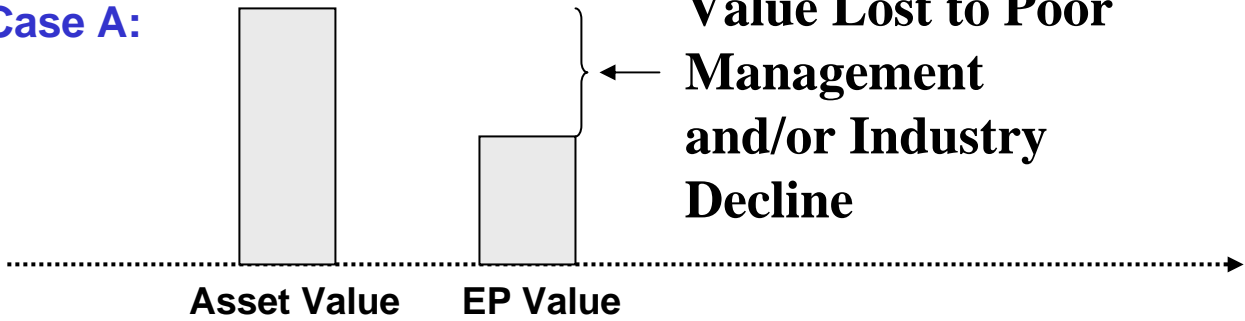
EPV EQUITY equivalent to AV EQUITY

EPV COMPANY equivalent to AV COMPANY

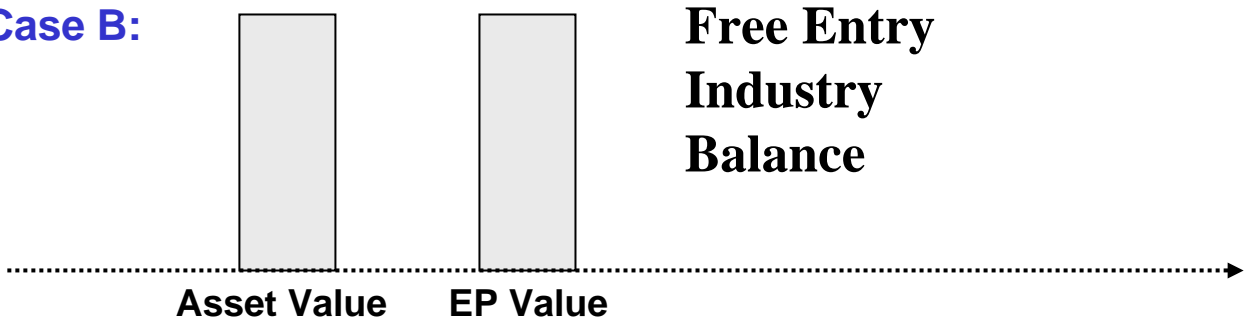


Earning Power and Entry - Exit

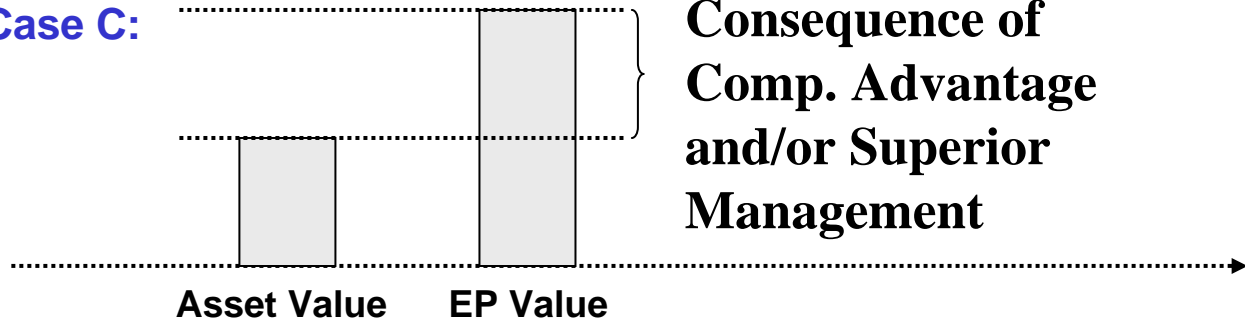
Case A:



Case B:



Case C:



“Sustainability” depends on Continuing Barriers-to-Entry



Total Value Including Growth

- Least reliable - Forecast change not just stability (Earnings Power)
- Highly sensitive to assumptions
- Data indicates that investors systematically overpay for growth
- Strict value investors want growth for “Free” (Market Value < Earnings Power Value)

Value of Growth - Basic Forces At Work

- Growing Stream of Cash Flows is more Valuable than a Constant Stream (relative to current Cash Flow)

I.E. $CF_0 * \left[\frac{1}{R - G} \right]$ vs. $CF_0 * \frac{1}{R}$

WACC **Growth Rate**

- Growth Requires Investment which reduces current (distributable) Cash Flow

$$CF_0 = \underbrace{\text{“Earnings”}}_{\text{No Growth } CF_0} \cdot \text{Investment Needed to Support Growth}$$

(N.B. Do Not Discount Growing “Earnings” Streams)



Value of Growth

Quantitative Effects

Investment: • \$100 million

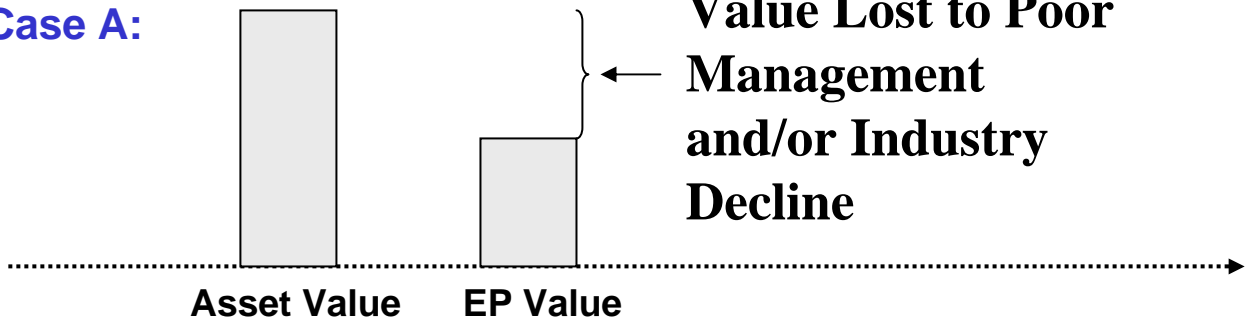
Cost of Funds: • 10% (R) = \$10M

Return on Investment (%)	5%	10%	20%
Return on Investment (\$)	\$5M	\$10M	\$20M
Cost of Investment	\$10M	\$10M	\$10M
Net Income Created	(\$5M)	0	\$10M
Net Value Created	(\$50M)	0	\$100M
Qualitative Impact:	Value Destroyed	No Value	Value Created
Situation:	Competitive Disadvantage	Level Playing Field	Competitive Advantage

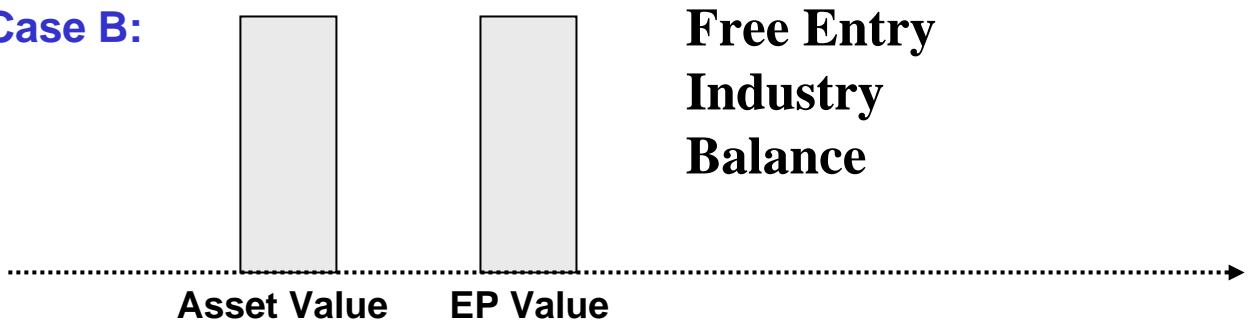


Earning Power and Entry - Exit

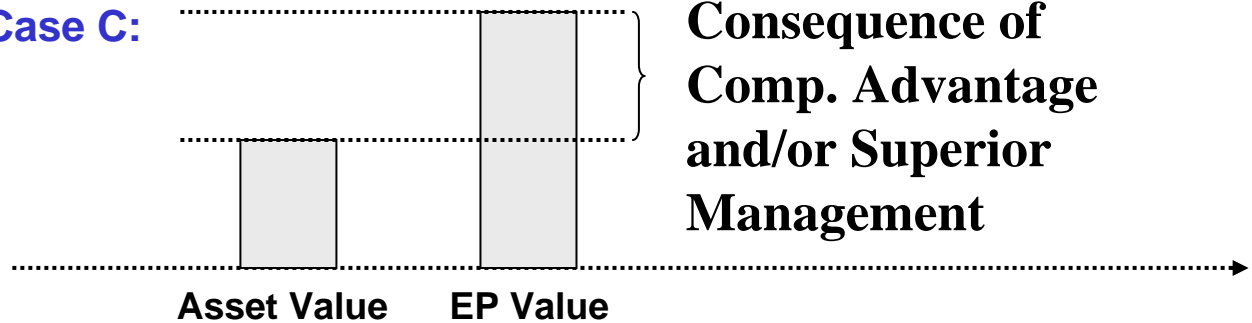
Case A:



Case B:



Case C:



“Sustainability” depends on Continuing Barriers-to-Entry

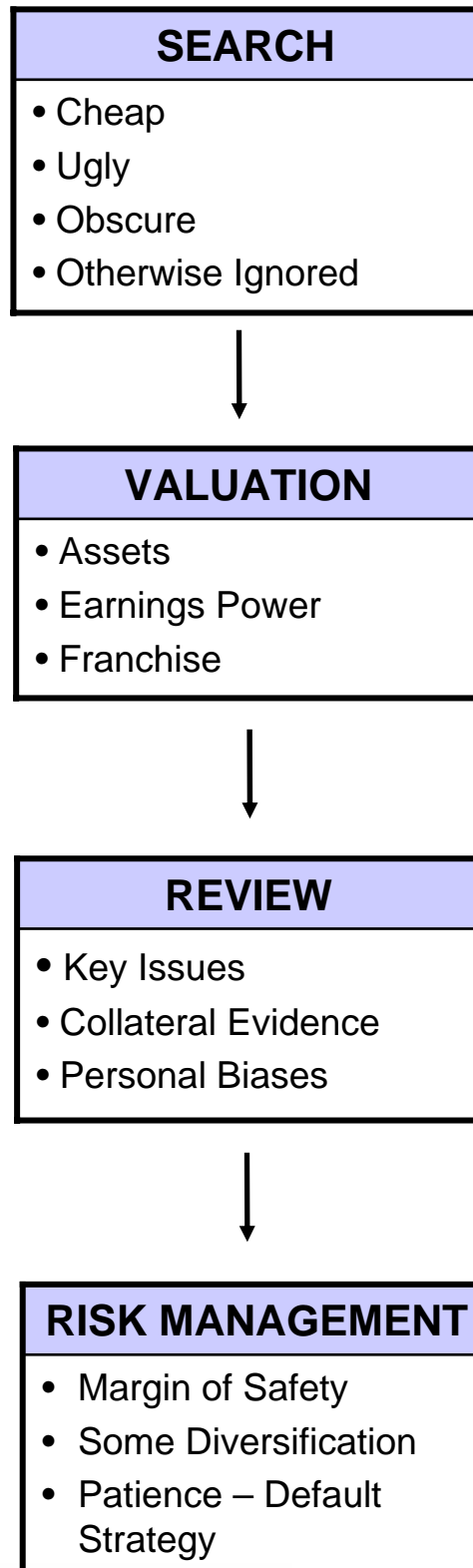


Valuing Growth Basics

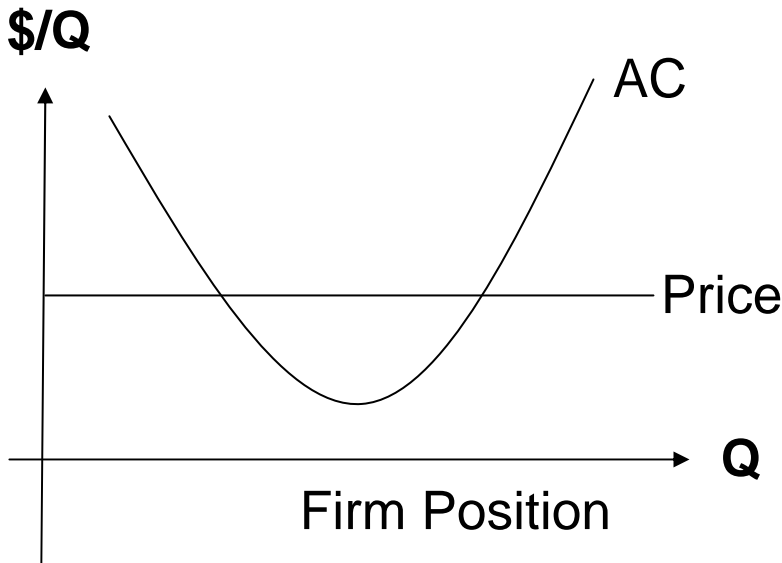
- Growth at a competitive disadvantage destroys value (AT&T in info processing)
- Growth on a level playing field neither creates nor destroys value (Wal-Mart in NE)
- Only franchise growth (at industry rate) creates value



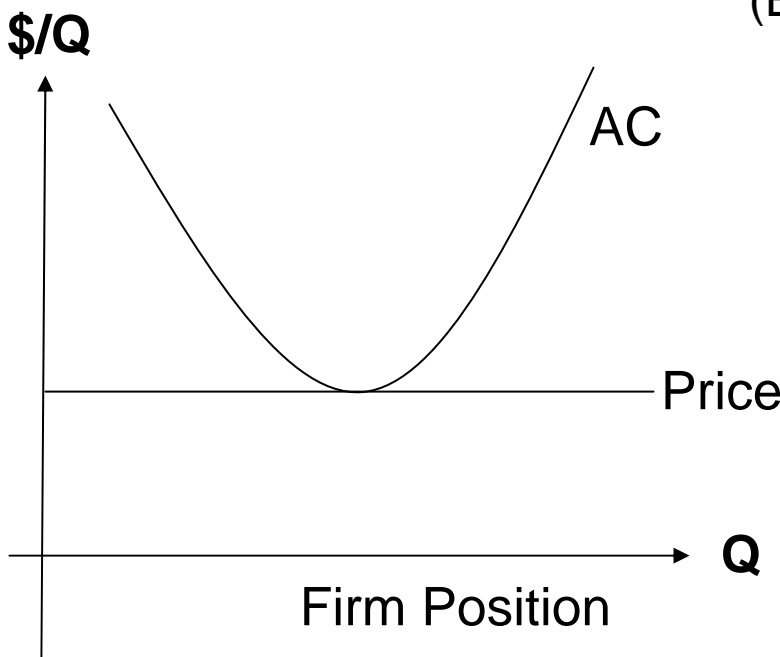
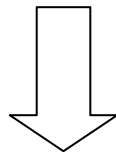
Value Investing Process



Consequences of Free Entry Commodity Markets (Steel)



“Economic Profit”
 ROE (20%) > Cost
 of Capital
 → Entry/Expansion
 Supply Up, Price
 Down



(Efficient Producers)
 ROE = 12%
 No Entry
 No Profit



Product Differentiation

Branding

(Profitability & Stability)

Coca Cola

Colgate Toothpaste

Tide

Marlboros

Cadillac

Mercedes-Benz

Sony (RCA)

Maytag(Hoover)

Budweiser

Harley-Davidson

Intel

Motorola

Dell, HP

Target, Walmart

Gap, Liz Claiborne

Verizon, Cingular

ATT, Sprint

WellsFargo, NCBN

JP Morgan, Chase,
Citibank

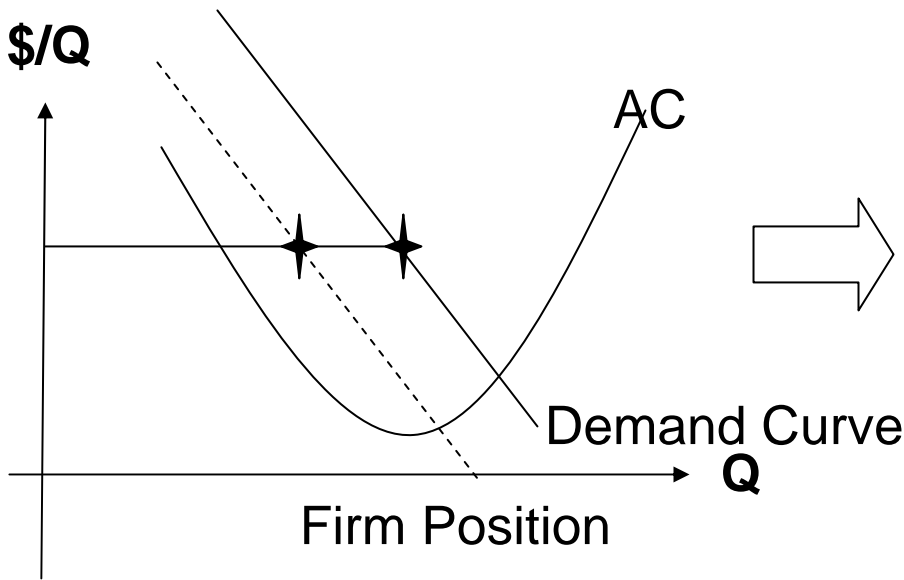
Insurance

Cosmetics

Gannett, Buffalo Evening News

NY Times, WSJ

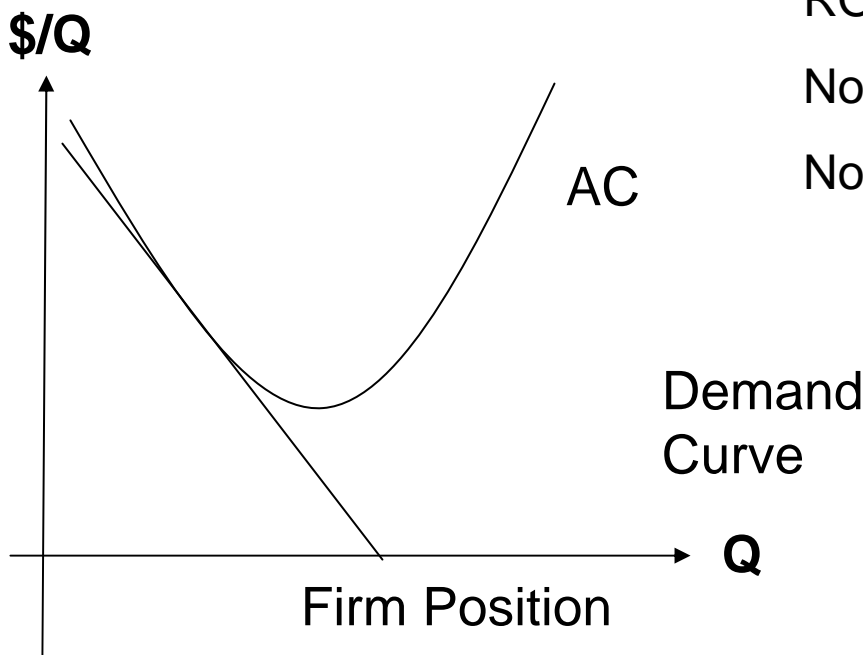
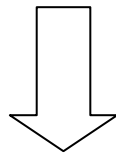
Consequences of Free Entry Differentiated Markets (Luxury Cars)



“Economic Profit”
ROE (20%) > Cost
of Capital

Entry/Expansion

Demand for Firm
shifts left (Fewer
sales at each
Price)



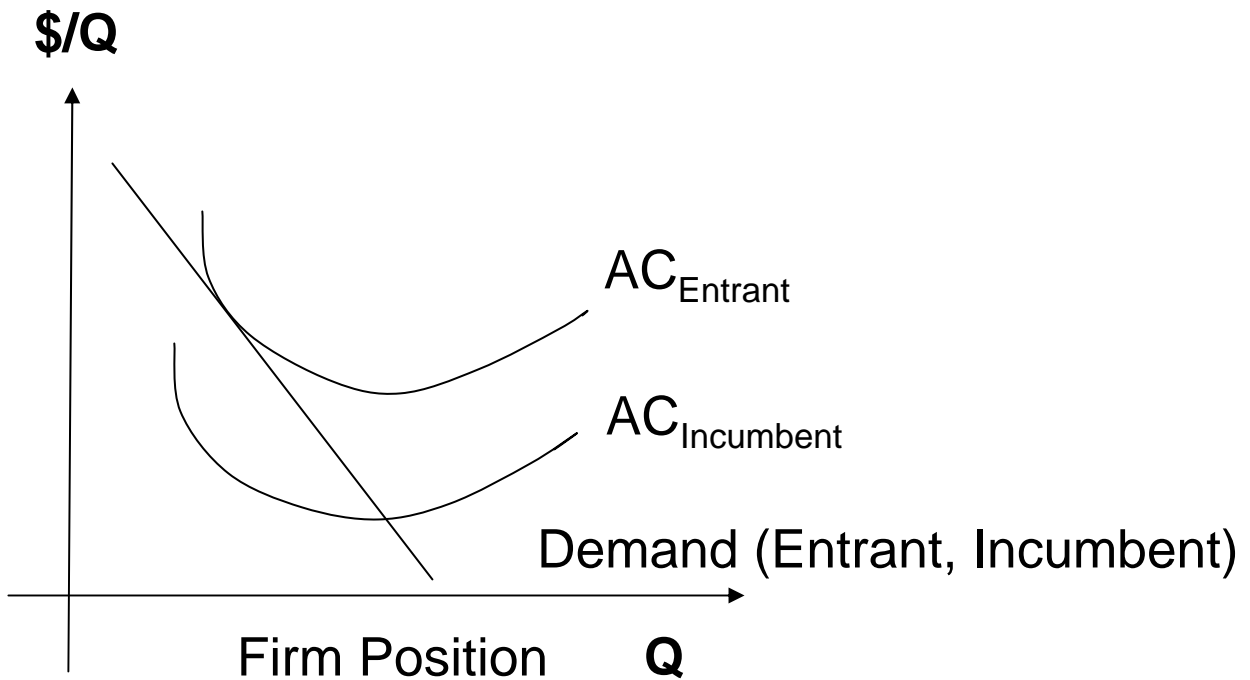
ROE = 12%

No Entry

No Profit

Barriers to Entry

Incumbent Cost Advantage



Entrant

No "Economic" Profit

ROE = 12%

No Entry

Incumbent

"Economic" Profit

ROE = 20%

- Not Access to Capital
- Not Just Smarter

Sources

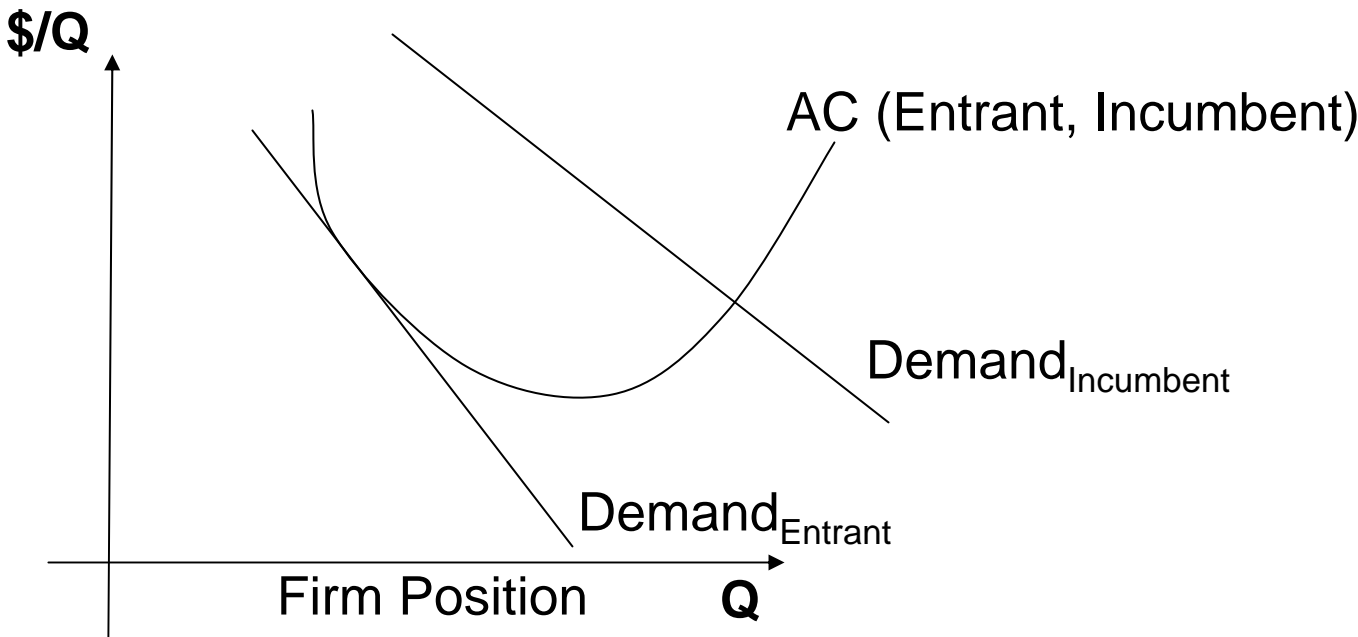
Proprietary Tech
(Patent, Process)

Learning Curve

Special Resources

Barriers to Entry

Incumbent Demand Advantage



Entrant

No "Economic" Profit

ROE = 12%

No Entry

Incumbent

Higher Profit, Sales

ROE = 20%

Sources

Habit (Coca-Cola)

- High Frequency Purchase

Search Cost (MD's)

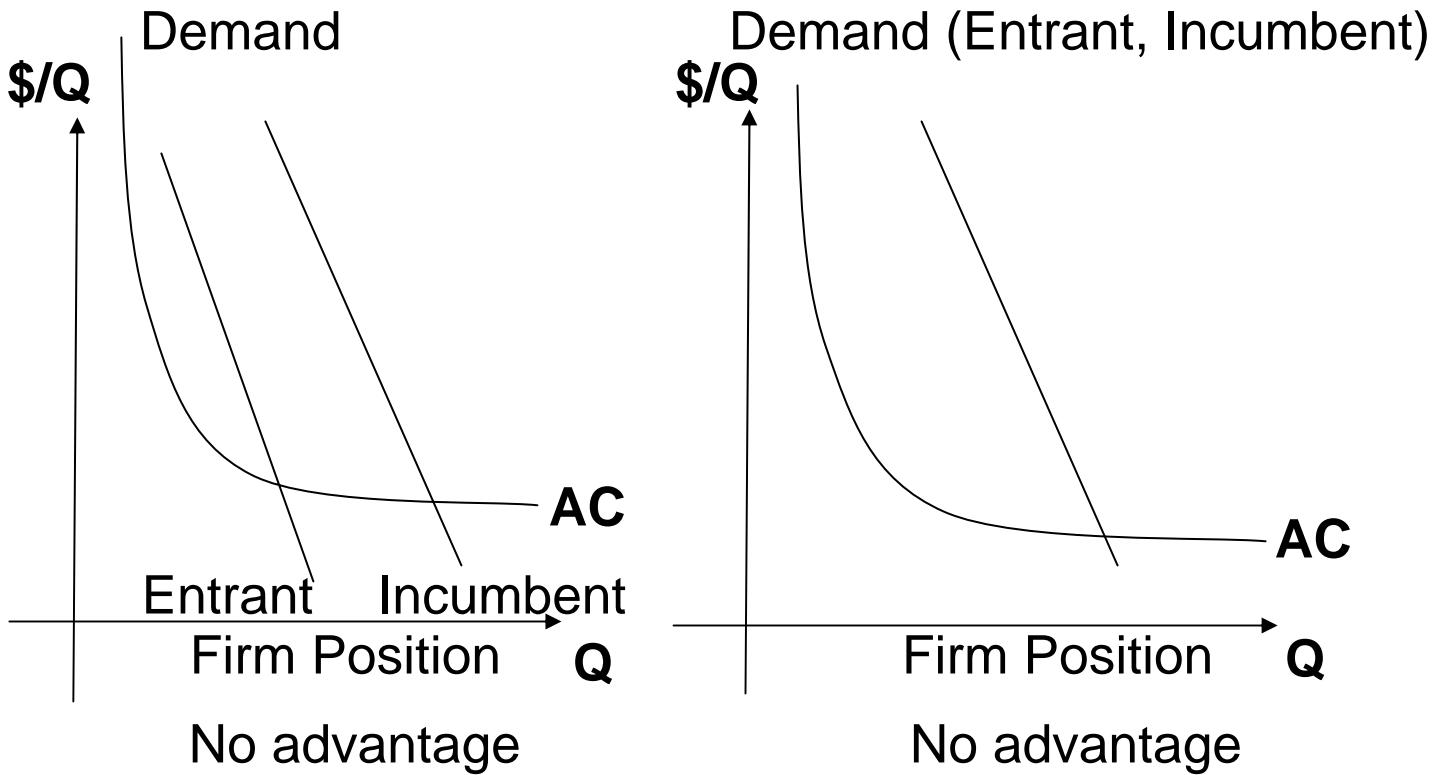
- High Complex Quality

Switching Cost (Banks, Computer Systems)

- Broad Embedded Applications

Barriers to Entry

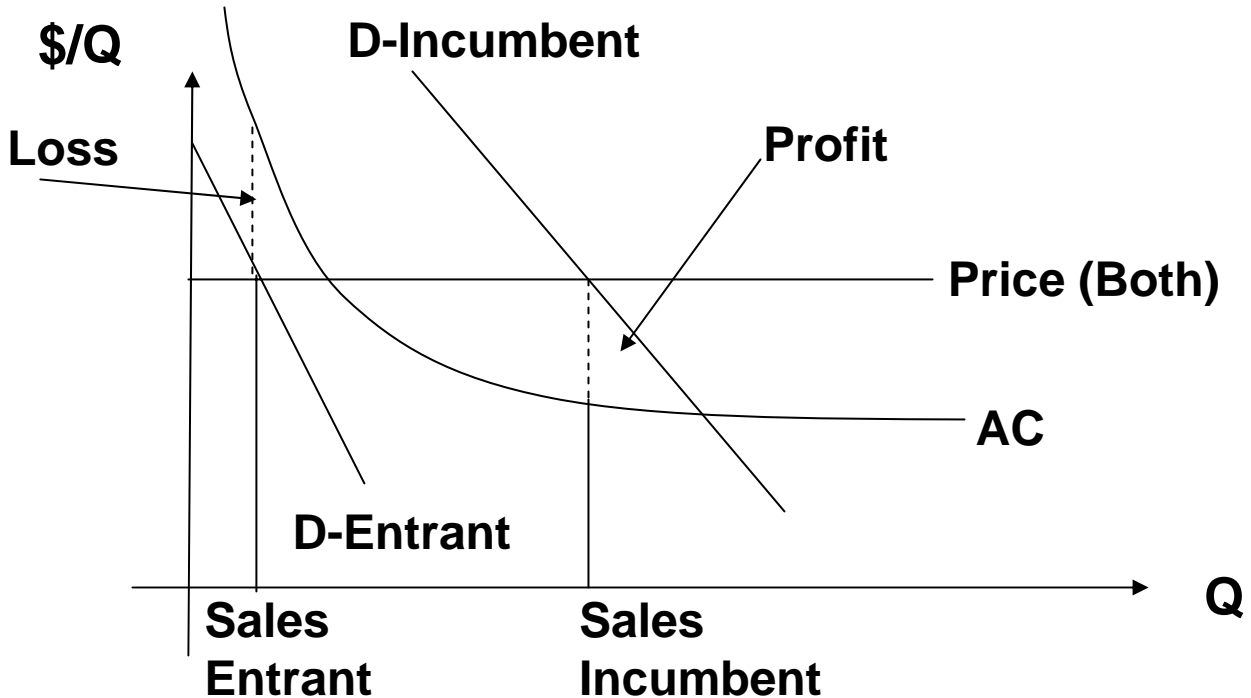
Economies of Scale



- Require Significant Fixed Cost (Internet)
- Require “Temporary” Demand Advantage
- Not the Same as Large Size (Auto + Health Care Co)

Barriers to Entry

Economies of Scale



- Advantages are Dynamic and Must be Defended
- Fixed Costs By:
 - Geographic Region (Coors, Nebraska Furniture Mart, Wal-Mart)
 - Product Line (Eye Surgery, HMO's)
 - National (Oreos, Coke, Nike, Autos)
 - Global (Boeing, Intel, Microsoft)



Varieties of Competitive Advantage

Producer (Cost) Supply – Proprietary Technology or Resources

Consumer (Revenue) Demand – Customer Captivity

Economies-of-Scale (plus Customer Captivity)



Key to Sustainability

Sustainable Competitive Advantage implies market dominance.

Competitive Advantage Strategy Implications

- Analysis on a market-by-market basis
- Large global markets are difficult to dominate
- Local markets (Physical, product geography) are ones susceptible to domination
 - Microsoft (Apple, IBM)
 - Wal-Mart (K-Mart, Circuit City)
 - Intel (Texas Instruments, et al)
 - Verizon (ATT, Sprint)
 - Pharmaceuticals

Assessing Competitive Advantages/ B-to-E Strategy Formulation

- New Market Entry

- No Barrier \Rightarrow No Profit

- Outside Barriers \Rightarrow Losses

- Need Potential Barriers, not yet in place.

- Maintaining Established Position

- No Barriers \Rightarrow No Position
(Hard to Create from Nothing).

- Enhancement

- Product Line Extension

- Increase Purchase Frequency

- Increase Complexity

- Accelerate Progress

- Emphasize Fixed vs. Variable Cost Technology.



Procedure in Practice

(1) Verify existence of franchise

- i. History – Returns – Share Stability
- ii. Sustainable competitive advantages

(2) Calculate earnings return – i.e. $1/PE$

(3) Identify cash distribution portion of earnings return

(Dividend + Repurchase)

(4) Identify organic (low investment) growth

(GDP \pm)

(5) Identify reinvestment return

(Multiple of Pct retained Earnings)

(6) Compare to market return (D/P & growth)

(7) Identify options positive/negative



Prospective Returns US & India Markets

U.S. Market

$$(1) 6\% (1/PE) + 2\% (\text{inflation}) = 8\%$$

$$(2) 2.5\% (D/P) + 4.7\% (\text{growth}) = 7.2\%$$

$$\text{Expected Return} = 7.5\%$$

India Market

$$(1) 4\% (1/PE) + 5\% (\text{inflation}) = 9\%$$

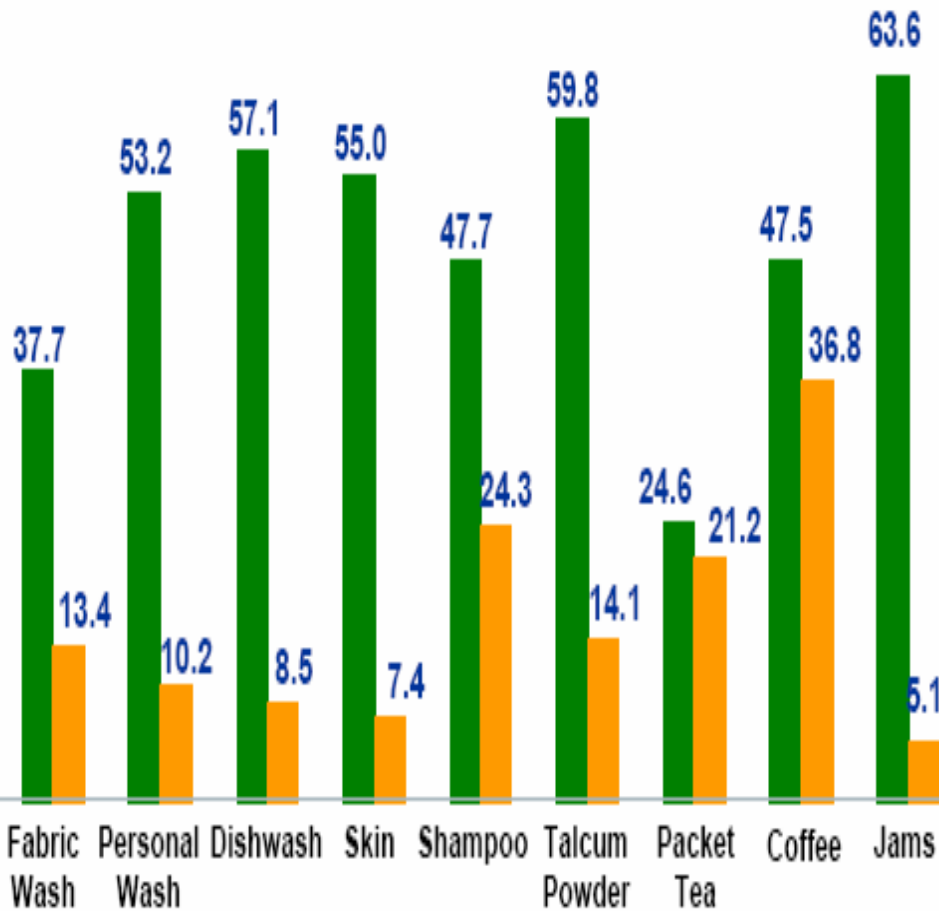
$$(2) 2\% (D/P) + 7\% (\text{growth}) = 9\%$$

$$\text{Expected Return} = 9\%$$

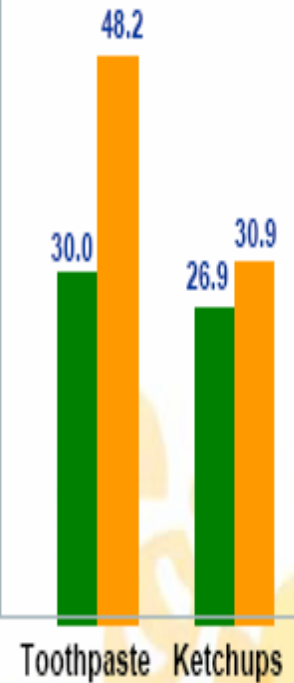


Hindustan Unilever: Market Dominance

Market Leader



Strong No. 2



■ HUL - Market Share (%) ■ Competition Market Share (%)

Source: Company website showing AC Nielsen – Quarter Ended Sept 2007 value shares



Hindustan Unilever: Financial returns

(Indian Rupees)	<u>2002</u>	<u>2003</u>	<u>2004</u>	<u>2005</u>	<u>2006</u>
Revenues crores	10951,61	11096,02	10888,38	11975,53	13035,06
Net profit margin	16%	16%	11%	11%	12%
Return on capital	46.8%	48.7%	37.3%	58.1%	55.4%
Return on Assets	23%	23%	16%	20%	20%
Stock information					
Market cap (crores)	40,008	45,059	31,587	43,419	47,788
P/E Ratio	23	25	26	31	26
Share Price	181.75	204.70	143.50	197.25	216.55



Infosys: Performance

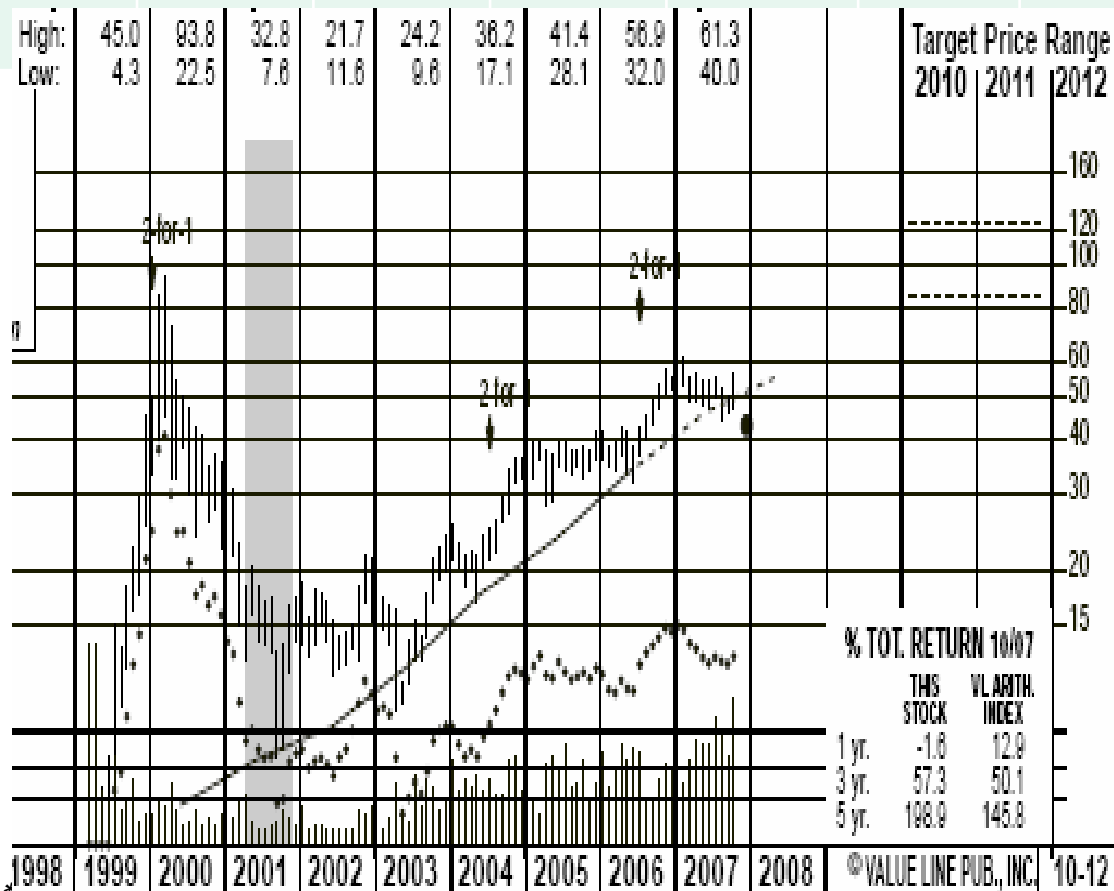
Return on Total Capital Declined....

2000	2001	2002	2003	2004	2005	2006	2007
42.3%	37.2%	30.6%	27.7%	33.4%	30.2%	31.3%	32%*

As Earnings Per Share* grew ...

.25	.31	.37	.51	.76	1.00	1.5	2.00
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The Stock Price (\$US ADR) shows extremely high multiples / growth expectation, especially in 2000 ...





Simple Examples Franchise Verification

<u>Company</u>	<u>Business</u>	<u>Adjusted ROE</u>
Wal-Mart	Discount Retail	22.5%
American Express	High-end Credit Cards & Services	45.50%
Gannett	Local Newspapers & Broadcasting	15.6%
Dell	Direct PC Supply to Large organizations	100.0% +



Simple Examples Franchise Verification

Sources of Competitive Advantage

Sources of Competitive Advantage

<u>Company</u>	<u>Customer Captivity?</u>	<u>Economies-of-Scale?</u>
Wal-Mart	Slight Customer Captivity	Local Economies-of-Scale
American Express	Customer Captivity	Some Economies-of-Scale
Gannett	Customer Captivity	Local Economies-of-Scale
Dell	Slight Customer Captivity	Economies-of-Scale



Calculated Growth Stock Returns

	<u>CASH</u>	<u>RE</u>	<u>GROWTH</u>	<u>TOTAL</u>
Wal-Mart	= 1.5%	+ 4.5%	+ 3.5%	= 9.5% + Option

(P/E – 17, Growth – 11 ½%)

(x1 Capital Allocation)

American Express	= 4%	+ 4%	+ 7.5%	= 15.5% + Option
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(P/E – 17 ½, Growth – 13%)

(2% x 2)

Gannett	= 10%	- 1%	- 2.0%	= 7.0% + Option
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(P/E – 11, Growth –3%)

Dell	= 0%	+ 5%	+ ?	= 5.0% + Growth +Option
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(P/E – 20, Growth –15%)

(?)



Appendix