

The New Economy

Mental Models for Market Outperformance

Presented by:

Michael Mauboussin

Chief U.S. Investment Strategist

(212) 325-3108

Agenda

- I. Follow the Cash
- II. Information Rules
- III. How to Play Today

Part I

Follow the Cash

Follow the Cash

The ideal model...

◆ Understand Economics

- ◆ Return on invested capital
- ◆ Return on incremental invested capital
- ◆ Earnings/value creation relationship
- ◆ Competitive advantage period

◆ Expectations Quantification

- ◆ Project “fair” value
- ◆ Understand *market* expectations

Follow the Cash

ROIC and P/E multiples

		Return on Invested Capital			
		8%	10%	15%	20%
Earnings Growth	5%	8.5x	10.0x	12.0x	12.9x
	10%	5.7	10.0	15.8	18.6
	15%	0.1	10.0	23.4	29.9
	20%	NM	10.0	38.2	52.2

Assume all equity financed; 10% WACC; 20-year forecast period

Follow the Cash

First principles



These drivers are *expectational* in the stock market

Follow the Cash

Cash flow defined

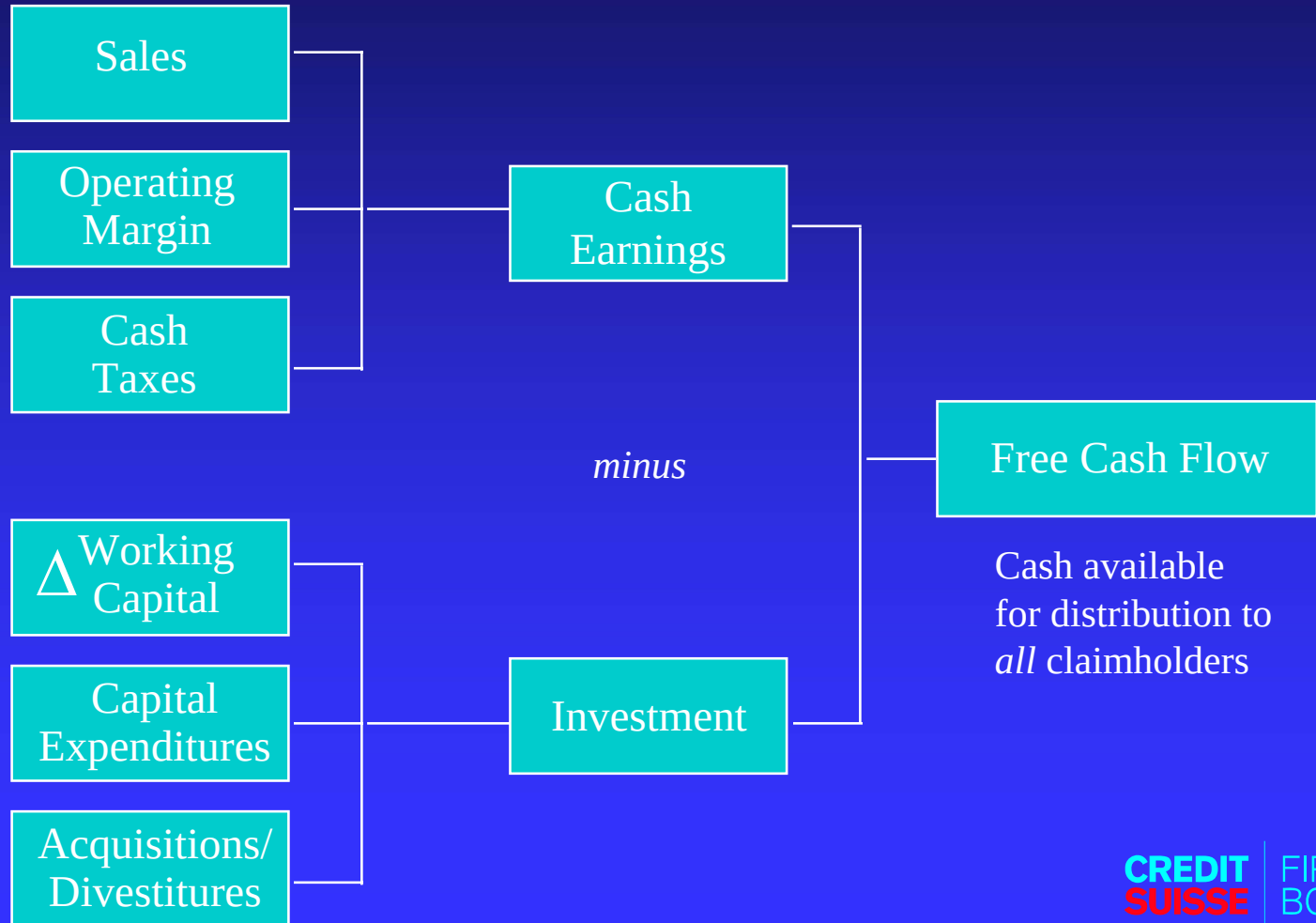
- Volume
- Pricing

- Expenses
- *Leases*

- Tax Provision
- *Deferred Taxes*
- *Tax Shield*

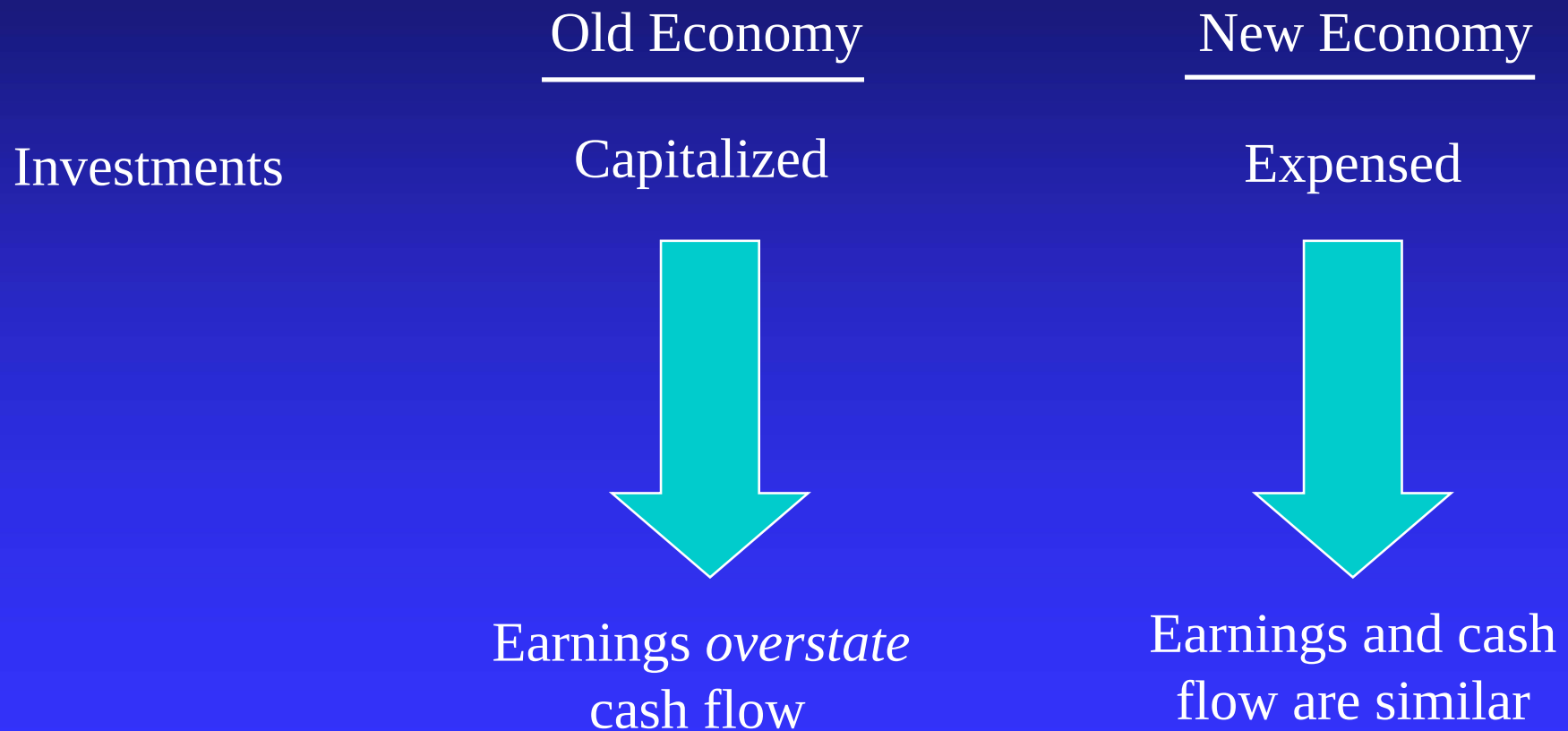
- A/R
- Inventories
- A/P

- Net PP&E
- *Operating Leases*



Follow the Cash

How investments are treated



Follow the Cash

The evidence

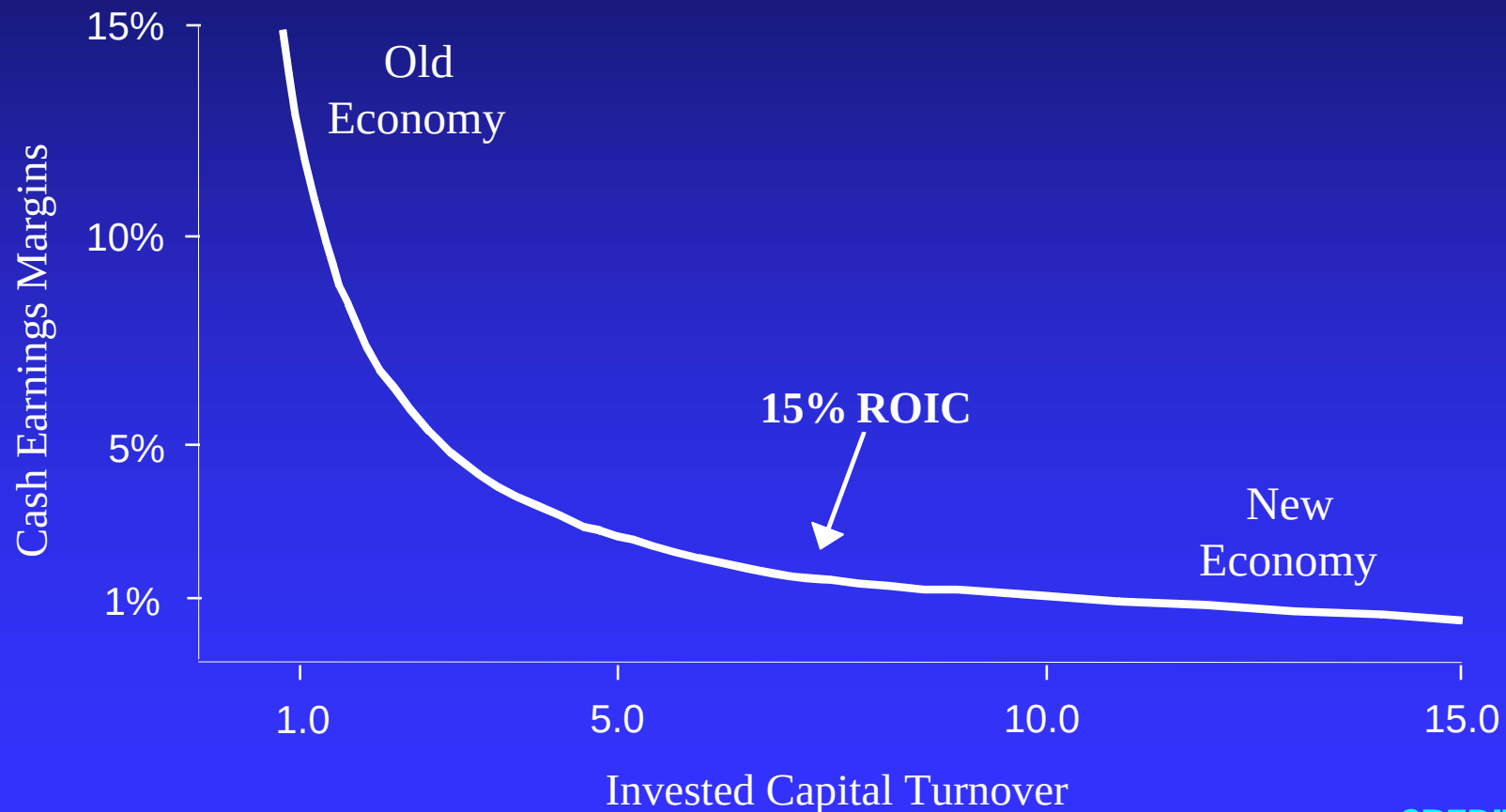
	Microsoft	Yahoo!	Coca-cola	Wal-Mart
Net income	\$100	\$100	\$100	\$100
<i>minus</i>				
Balance sheet Δ	-61	-75	26	13
<i>equals</i>				
Cash flow	161	175	74	87

Cash flow/net income	1.6x	1.8x	0.7x	0.9x
----------------------	------	------	------	------

Note: most recent reported fiscal year; all figures scaled.

Follow the Cash

The margin and capital turnover tradeoff



Follow the Cash

Atom, bits and cash

ROIC	
1988	9.9%
1998	9.4%



◆ Working capital as a percent of sales



◆ Fixed capital as a percent of sales



◆ Goodwill as a percent of sales



\$245 billion
in capital freed
last 10 years

M&A
formalizes
intangible
assets

Follow the Cash

Microsoft – fiscal 1999

Income Statement

Sales
Expenses
Operating Income
Taxes
Net Income

Balance Sheet

Current Assets
PPE
Other
Total Assets

Current Liabilities
Equity

Liabilities & Equity

**\$500,000
average
employee
option profit
(F99)**

$$\begin{array}{l} \text{Cash earnings} \\ \text{Invested capital} \end{array} = \frac{\$10 \text{ billion}}{\$ 1 \text{ billion}} = 975\% \text{ ROIC}$$

**\$81 billion
ESO liability**

**~ \$500 billion
market cap**

Part II

Information Rules

Information Rules

Mental models for the new millennium

- ◆ Network economics
- ◆ Trumping trade-offs
- ◆ Triumph of bits

Information Rules

Network economics

Physical capital world

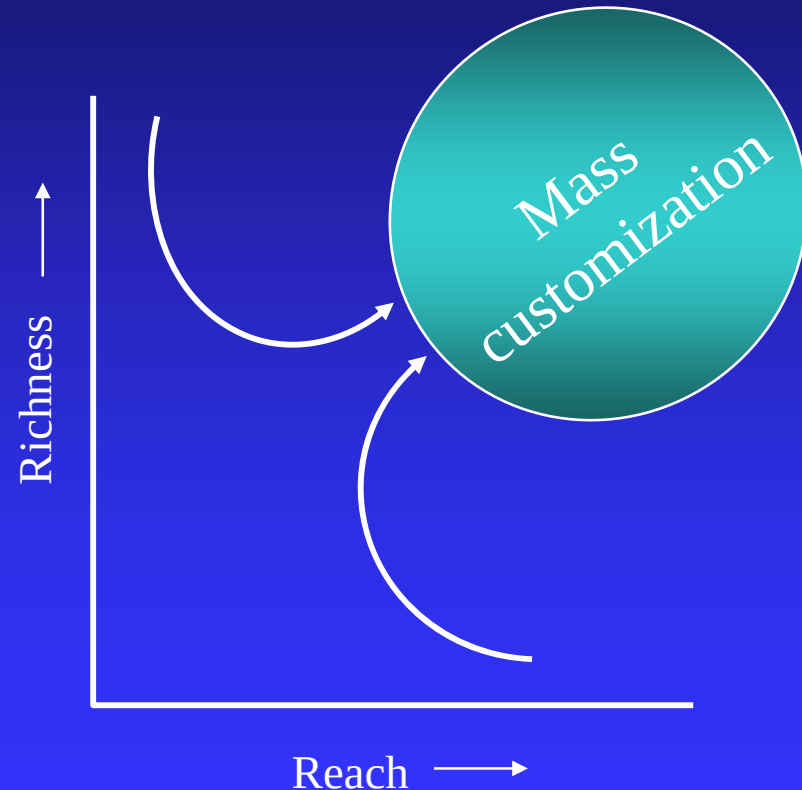
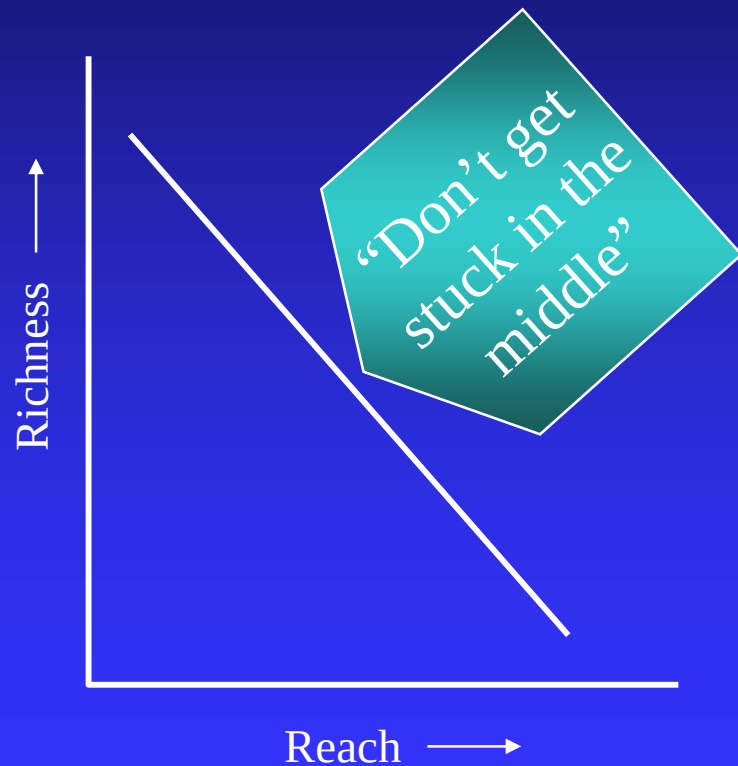
- ◆ economies of scale
- ◆ *supply-side* driven (manufacturing, processing capability)
- ◆ positive feedback dissipates as dominance is approached

Knowledge capital world

- ◆ network effects
- ◆ *demand-side* driven (eBay)
- ◆ positive feedback strengthens with dominance

Information Rules

Trumping tradeoffs



Information Rules

Triumph of bits

Atoms

- ◆ Rival good
- ◆ Easy to protect
- ◆ Spread costs
- ◆ Limited scalability

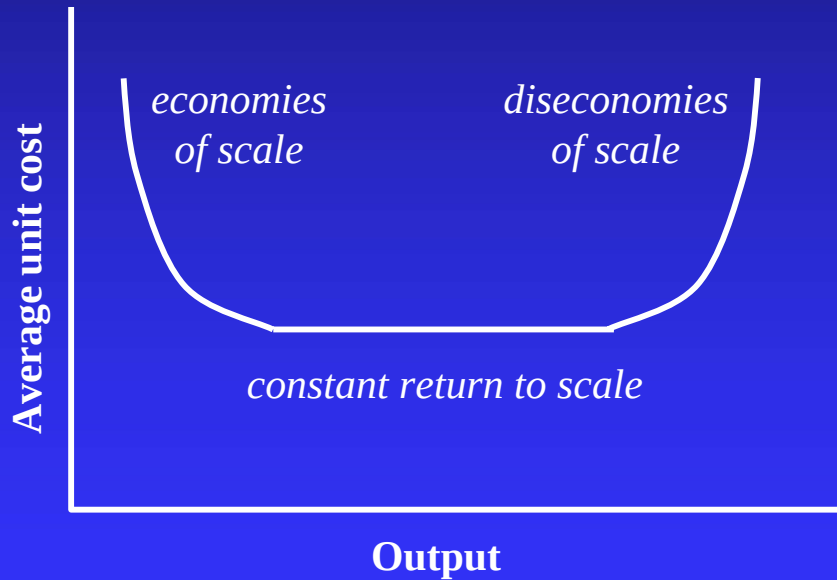
Bits

- ◆ Non-rival good
- ◆ Hard to protect
- ◆ Upfront costs
- ◆ High scalability

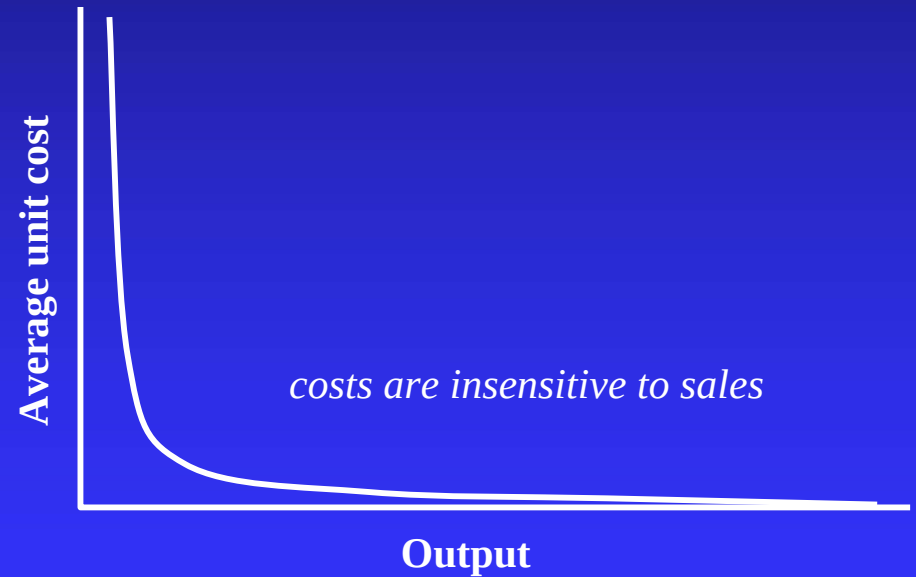
Information Rules

Relationship between output and costs

Capital-based



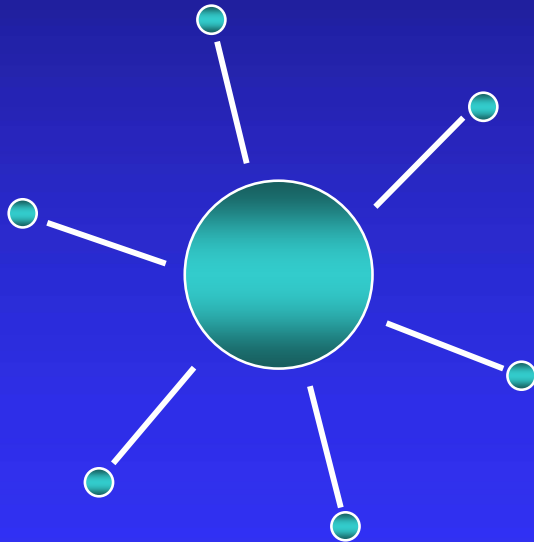
Knowledge-based



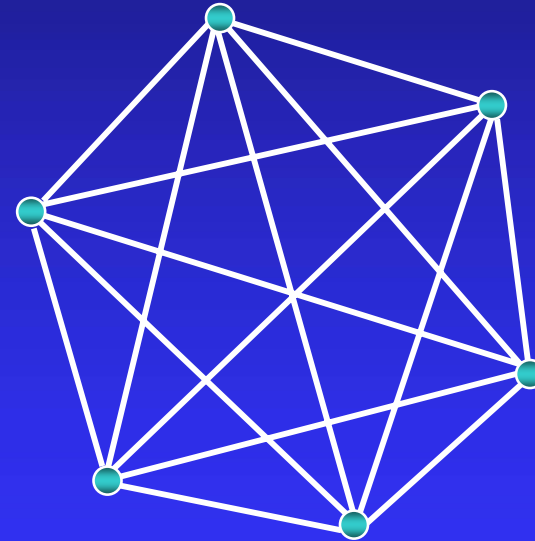
Information Rules

Network effects

Radial



Interactive



“Of networks there shall be few”
–Arthur’s Law

Information Rules

Increasing returns

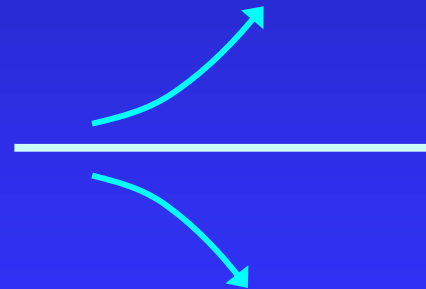
Network effects

High upfront costs

First-to-scale

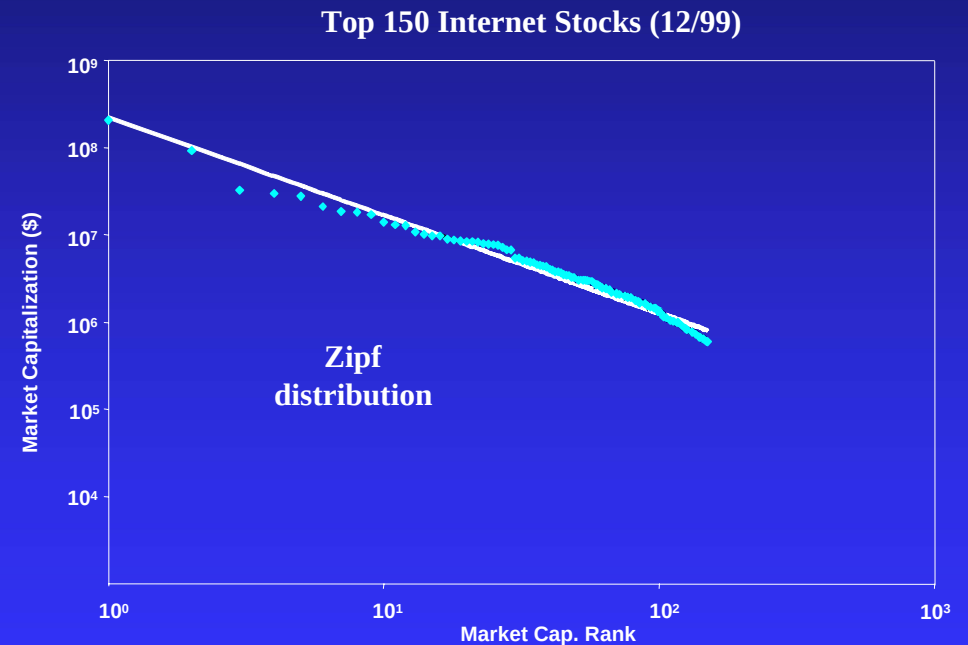
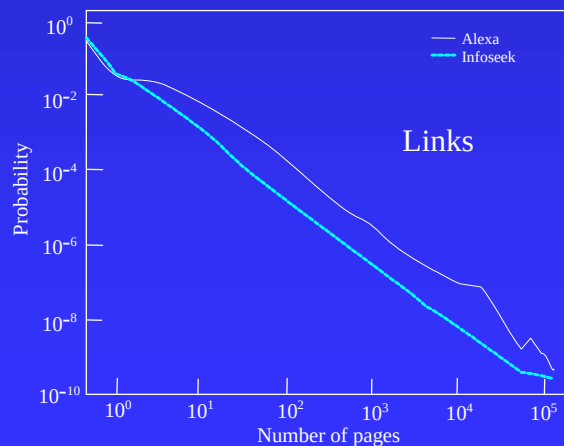
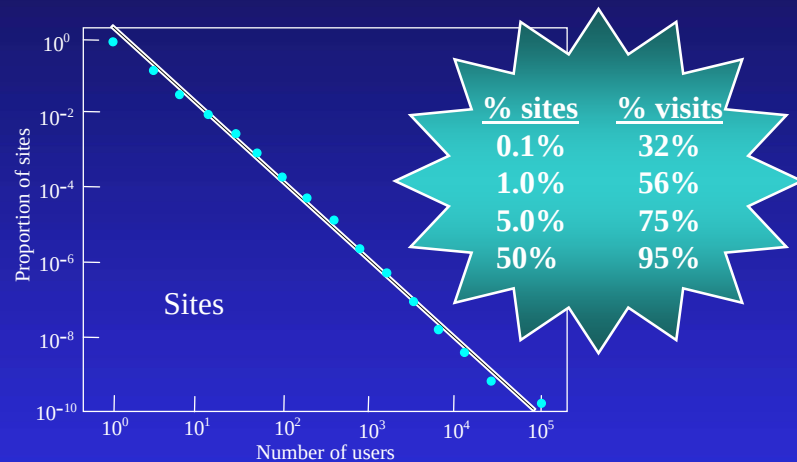
Lock-in (standard)

Increasing returns



Information Rules

Topology of the Internet



Information Rules

What to look for

- ◆ Heavily discount—or give away—new products
- ◆ Link and leverage—highlights the value of real options
- ◆ Think adaptation, not optimization

Part III

How to Play Today

How to Play Today

Traditional businesses – barriers to success

- ◆ Culture and compensation
 - ◆ hierarchical structure
 - ◆ cash-based versus stock-based
 - ◆ lack of diversity
- ◆ Channel conflict
 - ◆ pricing
 - ◆ varying logistics
 - ◆ information type
- ◆ Red Queen effect
 - ◆ prey/predator model
 - ◆ benefits competed away
 - ◆ lower margins

How to Play Today

Traditional businesses – the checklist

- ◆ Close to the customer
 - ◆ more reliable information
 - ◆ better capital management
 - ◆ tap network effects
- ◆ Deconstruct the business model
 - ◆ where is value created?
 - ◆ vertical models vulnerable
 - ◆ managers/investors don't know *where* and *why* value is created
- ◆ Capital discipline
 - ◆ reinvestment rate
 - ◆ game theory

How to Play Today

Knowledge businesses

- ◆ Network effects
 - ◆ stewards of the network
 - ◆ de facto standards
- ◆ Necessities
 - ◆ infrastructure
 - ◆ digital rights management
- ◆ Globalization
 - ◆ link and leverage
 - ◆ redefining local/national industries

The New Economy

Mental Models for Market Outperformance

Presented by:

Michael Mauboussin

Chief U.S. Investment Strategist

(212) 325-3108

Recommended Sources

◆ Finance:

- ◆ *Creating Shareholder Value*, Alfred Rappaport (The Free Press, New York, 1986 & 1998)
- ◆ *Valuation: Measuring and Managing the Value of Companies*, Tom Copeland, Tim Koller, Jack Murin (John Wiley & Sons, Inc., New York, 1995)
- ◆ *The Quest for Value*, G. Bennett Stewart III (Harper Collins, New York, 1991)
- ◆ *Real Options*, Martha Amram, Nalin Kulatilaka, (Harvard Business School Press, Cambridge, 1999)

Recommended Sources

◆ Strategy:

- ◆ *Information Rules*, Carl Shapiro, Hal R. Varian (Harvard Business School Press, Cambridge, 1999)
- ◆ *Innovator's Dilemma*, Clayton M. Christensen (Harvard Business School Press, Cambridge, 1997)
- ◆ *Blown to Bits*, Philip Evans, Thomas S. Wurster (Harvard Business School Press, Cambridge, 2000)
- ◆ *Unleashing the Killer App*, Larry Downes, Chunka Mui (Harvard Business School Press, Cambridge, 1998)