

Economic Moats: Sources and Outcomes

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MORNINGSTAR®

Morningstar Equity and Credit Research

- One of the largest independent equity and credit research groups in the world.
- Broad coverage: 120 equity and corporate credit analysts & strategists covering 1,800 companies (close to 2,000 securities) across the globe.
- Consistent, disciplined research approach focused on intrinsic values and economic moats.
- I joined Morningstar in early 2002, have held current role since 2005.

Our Approach

- We evaluate stocks as small pieces of a business.
- We do primary research, formulating our own opinions by reading financial filings & trade journals, visiting companies, talking to competitors & customers, and attending industry conferences.
- We have a long-term perspective.
- Our recommendations are driven by valuation, but we are not “value investors” in the most traditional sense.
- We believe that competitive advantages—“economic moats”—add intrinsic value, and we rigorously assess the competitive position of the companies we cover.
- We believe that the ability of a business to generate ROIC above cost of capital is the primary test of shareholder value creation.

Equity Coverage by Region, Global Indices, and Sector

Regional Coverage

Asia	242
Australia/New Zealand	265
Europe	344
Latin America	39
Middle East/Africa	18
North America	1,131
Total Global Coverage	2,072



Market Cap Coverage (%)

S&P 500	99
Europe 350	79
DAX 30	94
ASX 50	100
TSX 60	98
Stoxx 50	99
FTSE 100	70
CAC 40	95
AEX 25	90

Sector Coverage

↻ Cyclical	
🏭 Basic Materials	157
🚗 Consumer Cyclical	233
🏦 Financial Services	251
🏠 Real Estate	48
↘ Sensitive	
📞 Communication Services	87
💧 Energy	148
⚙️ Industrials	239
💻 Technology	178
→ Defensive	
🛒 Consumer Defensive	124
🏥 Health Care	149
💡 Utilities	82

Data as of 05 April, 2012

Agenda

- Moat concept overview
- Insights from new data set: moat categories
- About the Wide Moat Focus Index

What's An Economic Moat?



Economic Moats Concept

- Basic premise: Capitalism works
 - High profits attract competition
 - Competition reduces profitability
- But some firms stay very profitable for a long time – by creating economic moats to protect profits
- Economic moats are structural business attributes that help companies generate high returns on capital for an extended period
- Sustainable returns on capital are much more important than high returns on capital
 - Crocs CROX or Nokia NOK vs. Kinder Morgan KMP or Union Pacific UNP

Sources of Economic Moats

- Network Effect



- Cost Advantage



- Intangible Assets



- Switching Costs



- New! Efficient Scale



Sources of Economic Moats: The Network Effect

- The network effect is present when the value of a service grows as more people use a network.
- With each additional node, the number of potential connections in a network grows exponentially.
 - MasterCard MA, Visa V
 - eBay EBAY
 - Apps – Apple AAPL iOS, Google GOOG Android
 - Financial Exchanges – CME Group CME
 - Facebook

Sources of Economic Moats: Cost Advantages

- Allows firms to sell at same price as competition and gather excess profit and/or have the option to undercut competition.
- Economies of Scale
 - Distribution – UPS UPS, Sysco SYY
 - Manufacturing – Intel INTC
- Low-Cost Resource Base
 - Ultra Petroleum UPL, Compass Minerals CMP

Sources of Economic Moats: Intangible Assets

- Things that block competition and/or allow companies to charge more
- Brands
 - Sara Lee SLE vs. Hershey HSY
 - Sony SNE vs. Tiffany TIF
- Patents
 - Pharmaceuticals
- Licenses & Government Approvals
- Corporate Culture – Berkshire Hathaway BRK.B

Sources of Economic Moats: Switching Costs

- Time = money, and vice versa
 - Consumers and Banks
 - Oracle ORCL, Autodesk ADSK, Micros MCRS
 - Otis (United Technologies UTX), GE GE
 - Jack Henry JKHY, Fiserv FISV
 - Intuit INTU

Sources of Economic Moats: Efficient Scale

- When a company serves a market limited in size, new competitors may not have an incentive to enter. Incumbents generate economic profits, but new entrants would cause returns for all players to fall well below cost of capital.
- Natural geographic monopolies
 - Airports, racetracks, pipelines
- Niche markets
 - Defense companies, Lubrizol, Graco GGG, Alexion ALXN, etc.
- Rational oligopolies
 - Canadian banks

History of Moat Rating

- Warren Buffett in a 1999 Fortune magazine article writes:

The key to investing is not assessing how much an industry is going to affect society, or how much it will grow, but rather determining the competitive advantage of any given company and, above all, the durability of that advantage. The products or services that have wide, sustainable moats around them are the ones that deliver rewards to investors.

- Morningstar initiated economic moat rating in late 2002, subdividing entire coverage universe into three moat buckets: none, narrow, wide. This system remains in place today.
- Moat ratings have always required sign-off of committee. Acts as quality control measure and improves consistency.

Measuring a Moat

- First, assume company does not have a moat.
- Key Test: Is Return on Invested Capital (ROIC) $>$ Cost of Capital (WACC)?
 - If yes \rightarrow is positive spread sustainable for at least next decade-plus?
 - If yes \rightarrow Company has at least narrow moat
 - Is spread sustainable for two decades?
 - If yes \rightarrow Company has wide moat
- If company does not currently have positive economic profit (ROIC $>$ WACC), will it in the near future? Do positive economic profits in future outweigh near-term negative economic profits?
- Duration of economic profits matters, not absolute magnitude.

Who Has a Moat?



~10% of companies = **Wide**



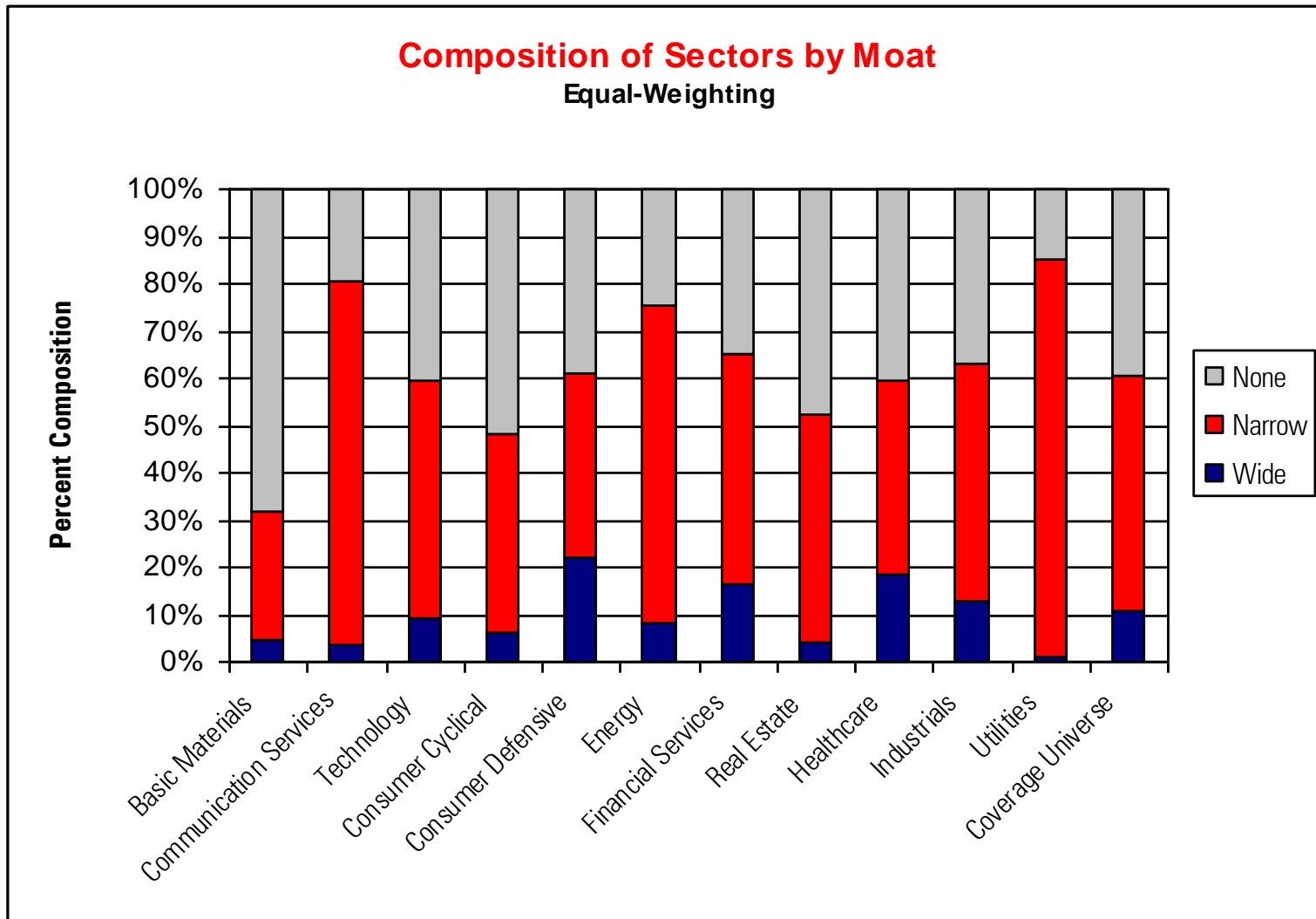
~ 50% = **Narrow**



~ 40% = **None**

- Moats are **not** equally distributed across the market
- Fewer moats in highly commoditized or competitive sectors
- More moats in areas with durable brands, patents or switching costs
- Our coverage universe skews toward larger, successful firms. In overall economy, most firms do not have any economic moat.

How Are Moats Distributed?

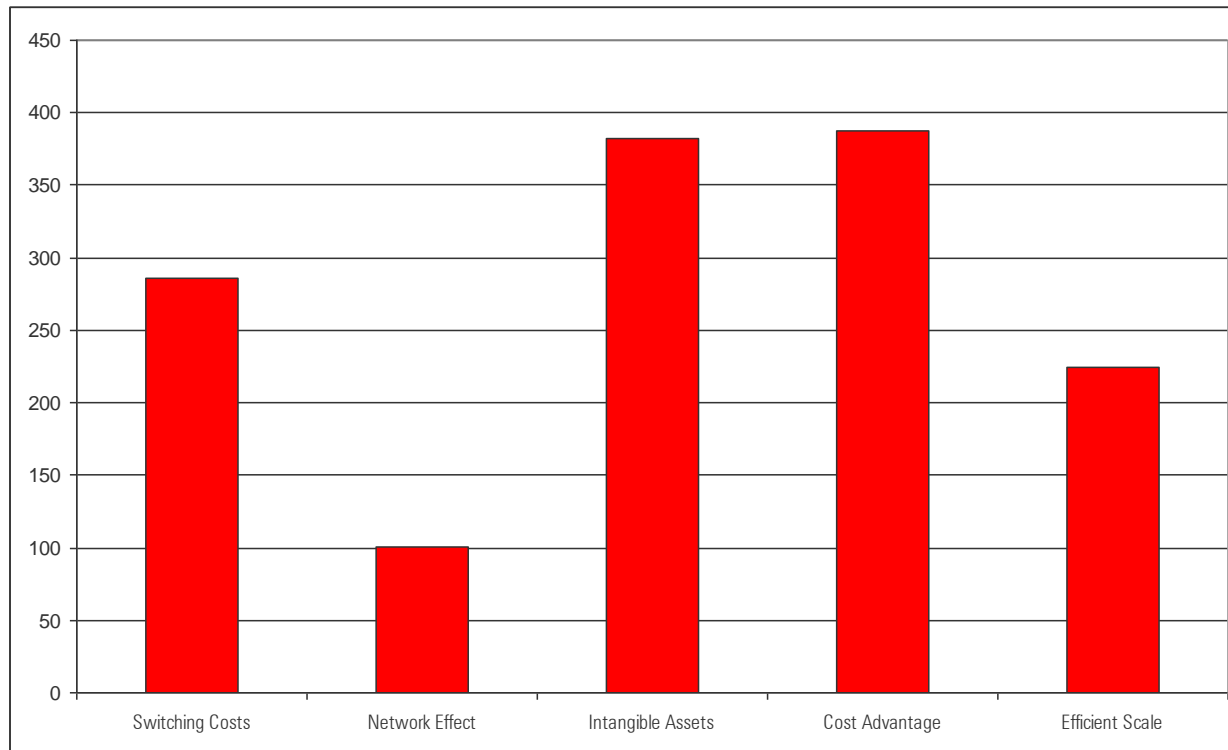


As of Oct. 2011

Moat Categories

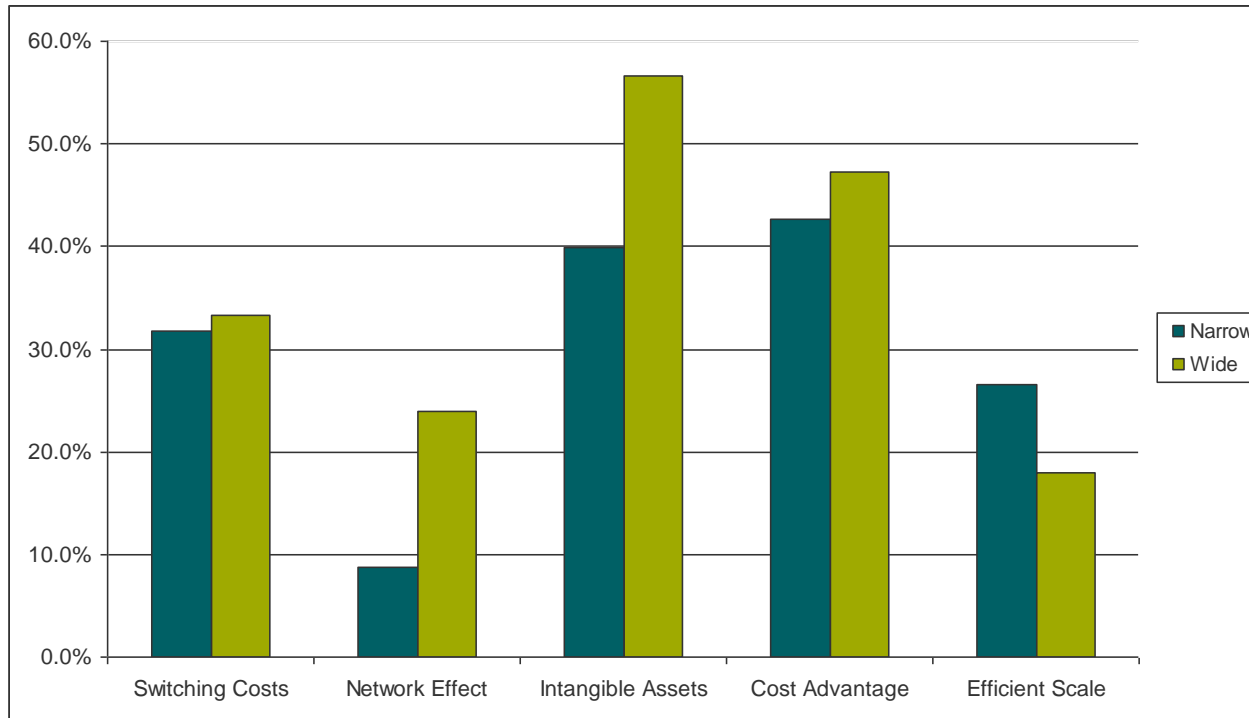
- In 2011, we took a comprehensive census of every company rated with a narrow or wide economic moat. This is how we discovered the efficient scale dynamic.
- We are in the process of coming out with explicit ratings identifying the source(s) of a company's competitive advantage.
- Allows us to tie qualitative observations to quantitative measurement. What follows are our initial insights.
- One assumption in this analysis: Sources of advantage are steady through time.
- Another caveat: I am painting with a broad brush. There are always exceptions.

Distribution: Sources of Moat



Cost advantage is the most common source of moat, network effect the least common.

Distribution: Sources of Moat (percentage)



Network effect is far more common among wide-moat firms, efficient scale is more common among narrow-moat firms.

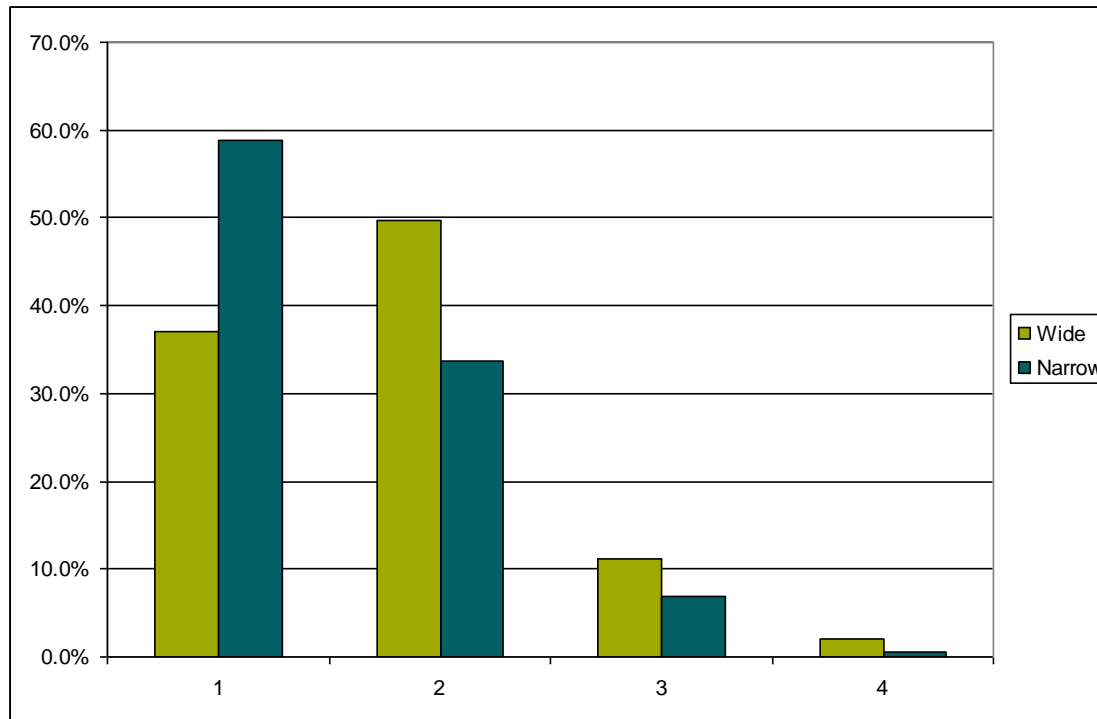
Good to confirm...

All Figures Are Medians	n	ROIC, TTM	ROIC, 3 Yr Avg	ROE, Trailing 1 Yr.	ROE, 10 Yr Avg	Op Margin, 10 Yr Avg	Net Margin, 10 Yr Avg
Wide	151	13.6%	13.3%	20.1%	20.1%	21.2%	14.4%
Narrow	745	8.3%	7.6%	13.5%	14.4%	14.6%	9.1%

Wide-moat firms are more profitable than narrow-moat firms.

Source: Morningstar Direct. Data as of 4/16/2012

Number of Competitive Advantages



Wide-moat firms have more sources of competitive advantage.

Fundamental Performance by # of Advantages

All Figures Are Medians	n	ROIC, TTM	ROIC, 3 Yr Avg	ROE, Trailing 1 Yr.	ROE, 10 Yr Avg	Op Margin, 10 Yr Avg	Net Margin, 10 Yr Avg
1 Advantage	494	8.3%	7.7%	13.5%	15.0%	15.5%	9.9%
2 Advantages	326	10.2%	9.1%	16.3%	15.6%	15.8%	9.7%
3 Advantages	69	8.7%	9.5%	17.3%	16.3%	15.7%	10.9%
4 Advantages	7	4.5%	6.2%	13.0%	13.5%	15.0%	9.9%

Having multiple sources of moat is better than having just one competitive advantage.

Source: Morningstar Direct. Data as of 4/16/2012

Fundamental Performance by # of Advantages: Wide Moat Firms Only

All Figures Are Medians	n	ROIC, TTM	ROIC, 3 Yr Avg	ROE, Trailing 1 Yr.	ROE, 10 Yr Avg	Op Margin, 10 Yr Avg	Net Margin, 10 Yr Avg
1 Advantage	56	13.4%	12.7%	19.7%	19.7%	22.5%	15.6%
2 Advantages	75	14.2%	14.0%	20.3%	20.8%	20.8%	14.1%
3 Advantages	17	9.3%	10.2%	16.6%	19.2%	20.5%	13.2%
4 Advantages	3	21.9%	15.0%	31.1%	15.3%	13.7%	8.9%

Having multiple sources of moat is better than having just one competitive advantage for wide-moat firms, too.

Source: Morningstar Direct. Data as of 4/16/2012

Fundamental Performance by Source of Moat

All Figures Are Medians	n	ROIC, TTM	ROIC, 3 Yr Avg	ROE, Trailing 1 Yr.	ROE, 10 Yr Avg	Op Margin, 10 Yr Avg	Net Margin, 10 Yr Avg
Switching Cost	286	9.7%	9.2%	15.4%	15.2%	15.5%	10.3%
Network Effect	101	10.2%	9.0%	17.1%	15.6%	13.4%	8.7%
Intang. Assets	382	11.4%	10.5%	17.8%	16.2%	15.5%	9.9%
Cost Advantage	388	8.6%	8.0%	14.1%	15.9%	15.4%	10.3%
Efficient Scale	224	6.7%	6.4%	13.5%	13.1%	17.1%	9.5%

Fundamentally, the best competitive advantage appears to be intangible assets.

Source: Morningstar Direct. Data as of 4/16/2012

Breaking Down the Intangible Assets Cohort

All Figures Are Medians	n	ROIC, TTM	ROIC, 3 Yr Avg	ROE, Trailing 1 Yr.	ROE, 10 Yr Avg	Op Margin, 10 Yr Avg	Net Margin, 10 Yr Avg
Intangible Assets: Healthcare Sector	56	12.8%	14.5%	18.0%	18.5%	20.7%	15.2%
Intangible Assets: Consumer Sector	133	12.7%	12.3%	21.2%	18.4%	14.9%	9.0%
Intangible Assets: All Other Sectors	193	10.0%	8.3%	13.3%	14.2%	14.4%	9.4%

Large exposure to healthcare sector (IP, patents) and consumer sector (brands) driving high returns of intangible asset cohort.

Source: Morningstar Direct. Data as of 4/16/2012

Stability of Earnings Through Time

	n	Median ROE, 10 Yr Avg (%)	Standard Deviation of Time Series		Median ROA, 10 Yr Avg (%)	Standard Deviation of Time Series		Median Op Margin, 10 Yr Avg (%)	Standard Deviation of Time Series
Switching Cost	286	15.2	2.15		5.7	1.13		15.5	1.53
Network Effect	101	15.6	2.49		6.6	1.37		13.4	3.01
Intang. Assets	382	16.2	2.41		7.3	1.05		15.5	1.27
Cost Advantage	388	15.9	2.38		5.5	0.96		15.4	1.27
Efficient Scale	224	13.1	2.22		4.1	0.81		17.1	1.41

The source of moat with the least stable returns on capital appears to be the network effect.

Source: Morningstar Direct. Data as of 4/16/2012

Stability of Earnings Through Time

	n	Median ROE, 10 Yr Avg (%)	ROE / Standard Deviation		Median ROA, 10 Yr Avg (%)	ROA / Standard Deviation		Median Op Margin, 10 Yr Avg (%)	Op. Margin / Standard Deviation
SC, W	50	17.0	10.1		9.9	9.6		23.3	10.5
SC, N	236	14.1	5.7		5.1	4.9		14.0	12.1
NE, W	36	21.5	6.2		10.6	8.2		22.8	11.6
NE, N	65	13.6	5.2		4.7	3.5		9.1	4.0
IA, W	85	20.6	16.1		9.6	12.0		21.5	19.8
IA, N	297	15.1	6.3		6.6	5.9		14.3	10.6
CA, W	71	22.1	11.2		9.7	8.5		16.9	8.6
CA, N	317	15.0	6.0		4.8	5.7		15.2	11.8
ES, W	27	13.2	4.3		5.5	5.4		27.5	6.3
ES, N	197	13.1	5.8		4.0	5.3		16.5	13.2

Wide moat, intangible asset companies have the most stable profitability. Narrow moat, network effect firms the least stability.

Source: Morningstar Direct. Data as of 4/16/2012

Differences Between Wide and Narrow

All Figures Are Medians	n	ROIC, TTM (%)	ROIC, 3 Yr Avg (%)	ROE, Trailing 1 Yr. (%)	ROE, 10 Yr Avg (%)	Op Margin, 10 Yr Avg (%)	Net Margin, 10 Yr Avg (%)
SC, W	50	15.5	14.7	27.2	17.0	23.3	16.3
SC, N	236	8.6	8.2	14.3	14.1	14.0	9.1
NE, W	36	14.1	12.7	19.9	21.5	22.8	14.8
NE, N	65	8.6	7.3	15.4	13.6	9.1	5.7
IA, W	85	13.5	13.6	20.1	20.6	21.5	14.6
IA, N	297	10.7	9.7	16.4	15.1	14.3	8.9
CA, W	71	15.0	14.7	24.3	22.1	16.9	10.6
CA, N	317	7.9	7.3	12.7	15.0	15.2	10.3
ES, W	27	7.0	6.4	10.5	13.2	27.5	18.0
ES, N	197	6.6	6.4	13.6	13.1	16.5	8.9

The biggest difference between wide and narrow moat companies is with cost advantage firms. The smallest difference is with efficient scale firms.

Source: Morningstar Direct. Data as of 4/16/2012

Market Returns by Moat Rating

	n	Median 5 Yr Total Return, Annualized	Mean 5 Yr Total Return, Annualized	Median 10 Yr Total Return, Annualized	Mean 10 yr Total Return, Annualized
Wide	151	3.0%	4.2%	7.1%	8.2%
Narrow	745	2.3%	1.5%	7.4%	8.5%

The results are mixed regarding wide moat versus narrow moat in terms of market returns in recent years.

Source: Morningstar Direct. Data as of 4/16/2012

Market Returns by Source of Moat

	n	Median 5 Yr Total Return, Annualized	Mean 5 Yr Total Return, Annualized	Median 10 Yr Total Return, Annualized	Mean 10 yr Total Return, Annualized
Switching Cost	286	2.7%	2.7%	7.0%	7.9%
Network Effect	101	2.2%	3.6%	7.5%	8.4%
Intang. Assets	382	2.9%	2.9%	7.1%	8.8%
Cost Advantage	388	2.0%	1.2%	7.9%	8.5%
Efficient Scale	224	3.6%	2.8%	8.5%	9.1%

Efficient Scale has had the best returns in recent years.

Source: Morningstar Direct. Data as of 4/16/2012

Any Interesting Combinations?

All Figures Are Medians	n	ROIC, TTM	ROIC, 3 Yr Avg	ROE, Trailing 1 Yr.	ROE, 10 Yr Avg	Op Margin, 10 Yr Avg	Net Margin, 10 Yr Avg
SC, NE	28	9.9%	8.8%	15.2%	15.3%	18.1%	13.8%
SC, IA	121	11.5%	10.1%	15.5%	14.7%	14.9%	10.2%
SC, CA	61	8.8%	9.3%	17.5%	16.8%	15.5%	10.0%
SC, ES	74	6.9%	7.3%	14.4%	13.8%	16.4%	10.0%
NE, IA	35	9.4%	7.8%	17.6%	16.4%	14.7%	9.1%
NE, CA	42	10.3%	10.0%	18.5%	17.0%	9.5%	5.9%
NE, ES	6	7.4%	5.6%	16.0%	10.1%	18.2%	17.4%
IA, CA	105	11.5%	11.8%	20.7%	19.1%	15.9%	9.6%
IA, ES	44	10.6%	9.2%	13.0%	12.7%	17.8%	10.9%
CA, ES	59	7.9%	7.0%	13.8%	14.8%	17.6%	11.1%

The combination of intangible assets & cost advantage is interesting. Network effect & efficient scale combo does not look so hot (albeit it has a very small sample size).

Source: Morningstar Direct. Data as of 4/16/2012

Market Returns by Moat Combination

	n	Median 5 Yr Total Return, Annualized	Mean 5 Yr Total Return, Annualized	Median 10 Yr Total Return, Annualized	Mean 10 yr Total Return, Annualized
SC, NE	28	3.6%	9.6%	6.0%	9.9%
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SC, CA	61	3.6%	3.7%	7.1%	8.8%
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NE, IA	35	0.9%	3.1%	7.4%	9.8%
NE, CA	42	1.2%	1.5%	7.3%	7.9%
NE, ES	6	3.6%	5.1%	7.3%	6.7%
IA, CA	105	4.0%	3.6%	8.1%	9.1%
IA, ES	44	4.0%	4.6%	10.5%	9.1%
CA, ES	59	3.9%	2.9%	8.9%	9.2%

The combination of switching cost & network effect has the most positive outliers, including Apple AAPL.

Source: Morningstar Direct. Data as of 4/16/2012

Practical Use of Moat Rating: The Wide Moat Focus Index

- Index of 20 most undervalued wide-moat stocks

	Trailing 1-Year	Trailing 3-Year*	Trailing 5-Year*	Since Inception*
Morningstar Wide Moat Focus Index	15.3%	30.5%	9.2%	15.3%
S&P 500 Index	8.5%	23.4%	2.0%	8.1%

Returns through 3/31/2012 * Annualized returns. Inception: 9/30/2002

Wide Moat Focus Index Construction

- Start with all U.S.-based corporations with wide-moat rating. (Meaning, the index excludes ADRs and MLPs.) This is currently about 120 companies.
- Find the 20 cheapest, according to Morningstar's research. We rank-order by their price/fair value ratios, and take the 20 with the lowest ratios.
- The index is equal weighted. This means every position carries a 5% weight initially.
- We reconstitute and rebalance the index once per calendar quarter.

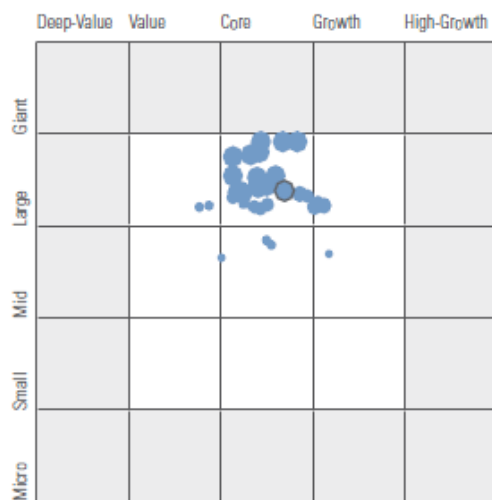
Current Composition of Wide Moat Focus

- Amazon.com AMZN
- Applied Materials AMAT
- Bank of New York Mellon BK
- Cisco Systems CSCO
- CME Group CME
- Compass Minerals International CMP
- Exelon EXC
- Expeditors International of Washington EXPD
- General Electric GE
- Google GOOG
- Martin Marietta Materials MLM
- Medtronic MDT
- Merck & Co. MRK
- Northern Trust NTRS
- Oracle ORCL
- Pfizer PFE
- Schlumberger SLB
- St. Joe JOE
- Vulcan Materials VMC
- Western Union WU

Wide Moat Focus Index Style

- There is no targeted style. Both the moat rating and our fair value estimates are agnostic regarding size and growth rates.
- However, the vast majority of our wide-moat firms are large-cap. As such, the index is mostly large-cap, but with a periodic twist toward small- and mid-caps relative to the S&P 500.

Wide Moat Focus: Size + Style, Since Inception



Average Portfolio Weights 2002–2011

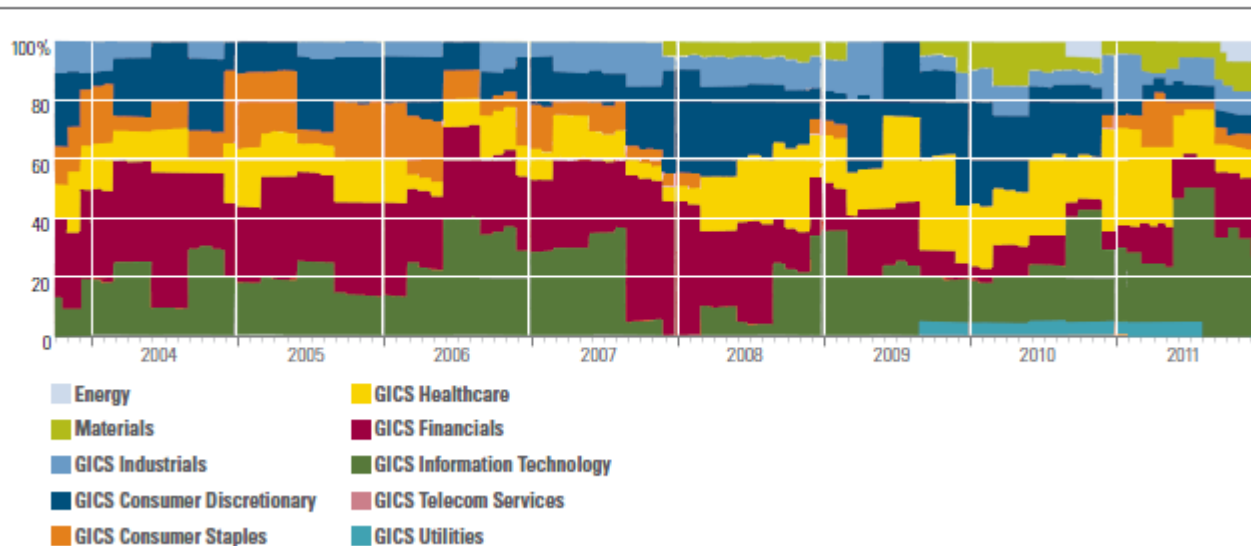
	Wide Moat Focus (%)	S&P 500 (%)
Growth	38.4	29.9
Blend	36.8	35.0
Value	24.8	35.1
Large	63.8	88.1
Mid	31.5	11.7
Small	4.8	0.2

Data as of 12/31/11

Wide Moat Focus Index Sectors

- There are no targeted sector weights. We simply let the chips fall where they may, adding whatever wide-moat firms are cheapest at the point of reconstitution.

Wide Moat Focus Sector Allocation



Wide Moat Focus Performance

- While slightly more volatile than the S&P 500, the Wide Moat Focus is not generating returns by merely taking on excessive risk.
- The index has both captured less downside in falling markets and more upside in rising markets.

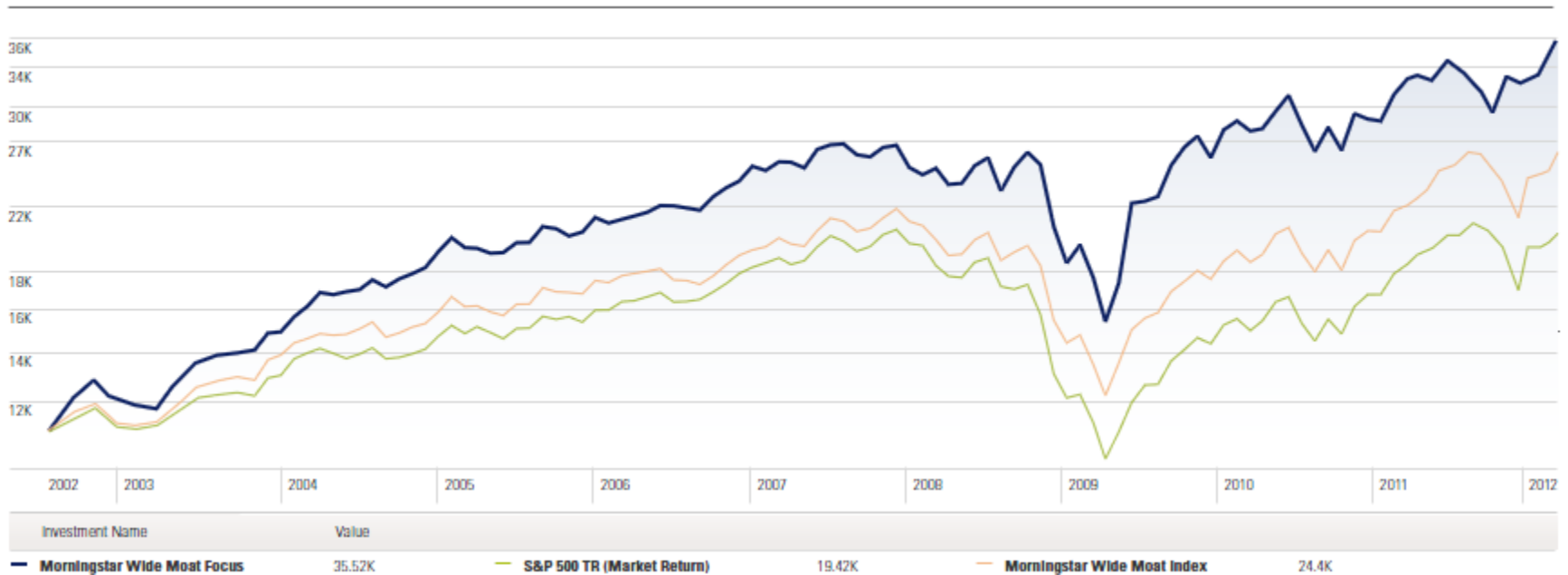
Risk and Return

	Standard Deviation	Sharpe Ratio	Sortino Ratio	Beta	Upside Capture	Downside Capture	Max Drawdown (%)	Best Quarter (%)	Worst Quarter (%)
Morningstar Wide Moat Focus Index	20.33	0.65	1.1	1.16	121	92	-42	31	-22
Morningstar Wide Moat Index	15.32	0.55	0.83	0.97	104	91	-44	17	-19
S&P 500 Index	15.47	0.39	0.56	1	100	100	-51	16	-22

Data as of 12/31/11
Source: Morningstar

Performance of the Wide Moat Focus Index vs. the S&P 500

Growth of 10k: Wide Moat Focus, S&P 500, and All Wide Moat Index



For More Information on Performance

- In early 2012, we published a report that detailed the performance record of the Wide Moat Focus.



A Wide-Moat Focus Outperforms the Market: Discipline and Patience Pay Off

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An equal-weighted portfolio of our 20 cheapest wide-moat stocks has generated significant excess returns relative to the overall market. Over the trailing three- and five-year periods, as well as since its late 2002 inception, this strategy has annually outperformed the S&P 500 by 5%, 6%, and 7%, respectively. Since inception, the strategy has outperformed 95% of large-cap funds.

Security selection added the overwhelming proportion of excess return. While attribution analysis shows style and sector tilts had some minimal effects, security selection provided more than 80% of the excess return.

A disciplined and patient strategy appears to be driving the excess returns. Our economic moat framework for identifying companies with sustainable competitive advantages improves our process to help determine dislocations in intrinsic valuations caused partly by nonfundamental noise. Further, by focusing on the sustainability of long-term cash flows, our strategy can exploit behavioral biases that tend to prioritize short-term security prices.

Given the duration of the excess returns of the Wide Moat Focus Index through many types of market movements, we don't attribute the excess returns to a unique set of recent market characteristics. Without a major realignment of investment focus, we expect the wide-moat strategy will persist and continue to achieve excess returns over the long term.

Morningstar Economic Moat™ Committee

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Full Disclosure

The chef is eating the cooking!

Disclosure: Paul Larson personally owns nearly all the stocks in the Tortoise and Hare model portfolios as well as the Wide Moat Focus Index, including the following stocks explicitly mentioned in these slides:

ADSK, BRK.B, CME, CMP, CSCO, EBAY, EXC, GOOG, JOE, MA, ORCL, PFE, SYY, UNP, UPL, VMC, WMT, WU

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