What Makes a Moat?

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Economic moats represent sustainable competitive advantages that allow companies to protect their value and lead to the excess returns captured in the Morningstar® Wide Moat Focus Index.℠

To make money in today's dynamic market environment, one needs to invest in companies that will perform in the face of sustained competitive pressure. But how can you accurately identify companies that are great today and likely to remain great for many years to come? The answer to this question lies in competitive advantages, or economic moats. Just as moats were dug around medieval castles to keep the opposition at bay, economic moats protect the high returns on capital enjoyed by the world's best companies.

Moats 101

In a famous 1999 *Fortune* article, legendary investor Warren Buffett wrote, "The key to investing is… 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." With gratitude to Mr. Buffett, Morningstar has taken the economic moat concept a step further and developed a comprehensive moat-based analytic framework that can be applied consistently across a broad, global list of companies.

Whenever a company develops a profitable product or service, it isn't long before other firms try to capitalize on that opportunity by producing a similar version, or even improving upon the original version. We know from microeconomics that in a perfectly competitive market, rivals will eventually compete away any excess profits earned by a successful business. Nokia boasted the majority share of the mobile phone market from the late 1990s until the early 2000s, but the introduction of Apple's iPhone in 2007 and the subsequent evolution of the smartphone market left Nokia behind. A similar shift has occurred in the gaming industry, where longtime powerhouse Nintendo has seen its iconic, family-friendly franchises

Figure 1. **Fundamental Performance by the Morningstar® Economic Moat™ Rating**
Wide-moat firms are more profitable than narrow-moat firms.

	Return on Invested Capital (%)	Return on Assets (%)	Return on Equity (%)	Operating Margin (%)	Net Margin (%)
Wide Moat	14.3	8.4	18.5	23.0	14.8
Narrow Moat	11.7	5.5	14.3	16.3	9.2
No Moat	8.3	3.9	9.9	9.7	4.9

Median, three-year historical results
Source: Morningstar equity analyst discounted cash-flow models
Data as of March 31, 2014

overtaken by powerful new consoles boasting high-end third-party software, such as Microsoft's Xbox and Sony's PlayStation. Meanwhile, mobile devices and social gaming have begun to erode Nintendo's dominant position in the handheld gaming market. In other words, profits attract competitors, and competition makes it difficult for firms to generate strong growth and margins over the long term.

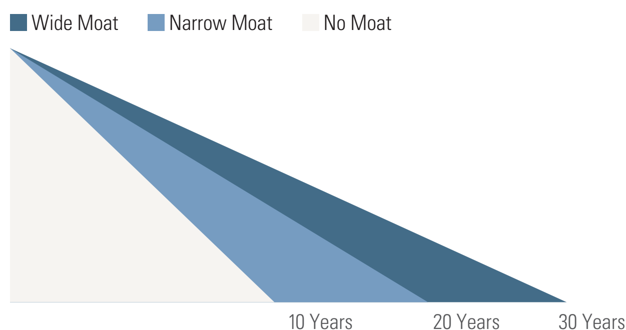
But looking at the history of firms, many companies earn high returns on capital for an extended period of time. Such companies are able to withstand the relentless onslaught of competition for long periods, and these are the wealth-compounding machines. The explanation lies in structural characteristics known as economic moats.

Moats Determine the Size of Value Creation

How much value a company will create for itself and its shareholders depends on two things: the amount of value currently being created and the business' ability to continue to create value well into the future. The first factor is widely known by the market because it's easy to calculate using basic financial statements. It's the second factor, the magnitude and duration of future excess returns, that is harder to determine but is ultimately more important for successful long-term investing.

Figure 2. **Moats Add Intrinsic Value**

Return on invested capital (ROIC) will diminish to weighted average cost of capital (WACC) over time. Companies with the widest moats have the potential to create value for longer periods of time.



Source: Morningstar

Here is another way to illustrate this idea: Take three companies, each with a similar value-creating return on invested capital today. The company that is able to sustain the return on invested capital the longest is going to be able to add the most value for itself over the coming years. In Figure 2, the company with the widest moat and the longest advantage period has the greatest value creation (area under the curve). In a nutshell, companies that have moats can create value for longer periods of time and are worth more, all else being equal.

Moat Sources

Over the years of looking at companies, Morningstar has identified five major sources of competitive advantage:

1. *Switching Costs*—Switching costs are those one-time inconveniences or expenses a customer incurs to change from one product to another. Customers facing high switching costs often won't switch unless they are offered a large improvement in either price or performance. Companies whose customers have switching costs can charge higher prices (and reap more profits) without the threat of losing business. Consider a firm like Oracle—the massive software giant that sells database programs to companies that store and retrieve vast amounts of data. Oracle's databases are generally connected to other software programs, so if a company wants to change from an Oracle database, it would not only need to move all its data, but also reattach all the different programs that pull from Oracle. Therefore, companies tend not to switch, which is why businesses like Oracle have extraordinarily high renewal rates.

2. *Network Effect*—The network effect occurs when the value of a particular good or service increases for both new and existing users as more people use that good or service, often creating a virtuous circle that allows the strong to get stronger. Take eBay as an example—it has the most buyers on its platform, so it attracts the most sellers. Meanwhile, because it has the most sellers, it is the most compelling source for buyers looking for nonstandard goods.

3. *Intangible Assets*—Intangible assets are things such as patents or government licenses that explicitly keep competitors at bay. Pharmaceutical firms such as Abbott Laboratories or Pfizer certainly benefit from this. Another sort of intangible asset that can provide an advantage is a strong brand. Intangible assets can have a powerful connection with performance and market characteristics, as seen in Figure 3.

Figure 3. **Characteristics by Source of Moat**
Different sources of wide or narrow moats trade at different multiples of earnings and have varying growth rates.

	Number of Firms	P/E 5-Yr Avg (%)	Current P/E (%)	10-Yr Revenue Growth (%)	Days to Cover (%)	Market Cap (USD Mil)	Forward Dividend Yield (%)
Switching Costs	255	16.63	23.49	9.00	4.52	35,348.38	2.15
Network Effect	130	26.01	43.02	9.61	4.60	22,823.85	3.31
Intangible Assets	303	18.86	11.38	10.31	4.48	35,324.81	2.15
Cost Advantage	70	33.45	42.78	14.14	4.51	35,899.78	1.78
Efficient Scale	176	33.50	11.28	12.00	4.66	29,769.64	2.54

Source: Morningstar Direct℠
Data as of April 8, 2014

4. *Cost Advantage*—Firms that can figure out ways to provide goods or services at lower cost have an advantage because they can undercut their rivals on price. Alternatively, they may sell their products or services at the same prices as rivals, but achieve a fatter profit margin. Wal-Mart is a textbook example of a low-cost producer because it can use its size to acquire and distribute merchandise on the cheap, passing part of the savings to its customers.

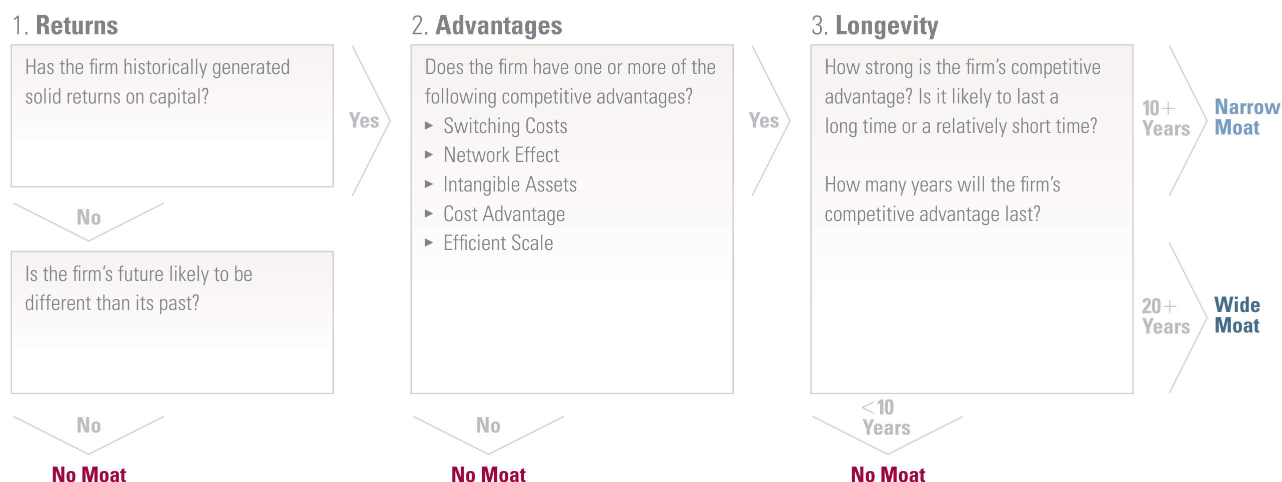
5. *Efficient Scale*—This is a dynamic where there is a limited market size that is being effectively served by one or a small handful of companies. The companies that benefit from this phenomenon are efficiently scaled to fit a market that only supports one or a few competitors, limiting rivalry.

Union Pacific's wide moat is partially based on efficient scale. On all but the busiest lanes, generally a single railroad serves an end-of-the-line shipper, and only two railroads operate in most regions in North America. Meanwhile, Medtronic benefits from efficient scale in the cardiac area, with roughly three competitors in total across its heart-related portfolio. The markets for pacemakers, implantable cardioverter defibrillators (ICDs), coronary stents, and neuromodulation devices generally operate as rational oligopolies.

Assigning Moat Ratings

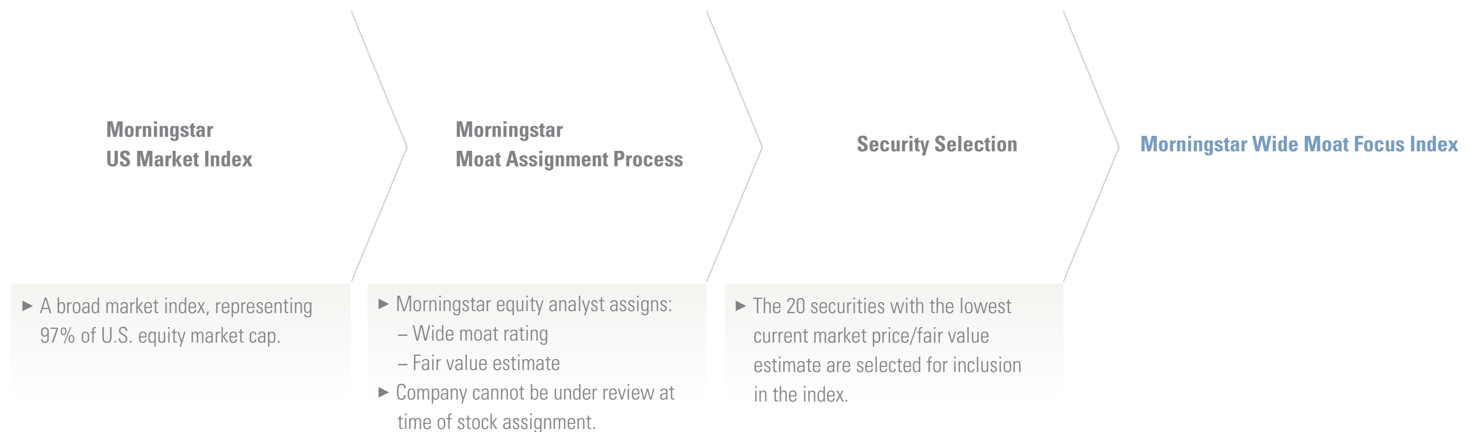
When assigning moat ratings, we first consider the five qualitative factors outlined above. But we also look for quantitative evidence of a moat, namely, a company's ability to earn excess

Figure 4. **Morningstar's Moat Assignment Process**
The Morningstar Moat assignment process is led by a committee of senior researchers. Steps include ensuring a company's return on invested capital is in excess of its cost of capital and that it has a sustainable competitive advantage.



Source: Morningstar

Figure 5. **The Morningstar Wide Moat Focus Index Construction Process**



Source: Morningstar

returns on invested capital. The size of the spread between ROIC and cost of capital is actually far less important than the expected duration of the excess profits. When we believe that a company will more likely than not benefit from a competitive advantage and earn excess returns for a period of at least 10 years, we assign it a narrow moat rating. When we're near-certain that a firm will earn excess returns for the next 10 years, and likely for the next 20 years, we assign the firm a wide moat rating. Clearly, the hurdle is high for earning a wide moat rating. Despite scouring the universe of listed companies, we have assigned wide moat ratings to approximately 200 companies globally.

Importance of Valuation

Valuation is an incredibly important aspect of investing—you could argue, the most important. It makes sense when you think about it: You wouldn't want to pay $650,000 for a house that's worth $500,000, because even if it were a great house, it would take many years for the market to recognize the value of the house as $650,000. At that point, you would have likely lost purchasing power in real terms after inflation. Even if you bought that same house for $500,000, or fair market value, you would see it appreciate only at the market rate of return. Ideally, you'd get an even better price on the house, perhaps buying it for $450,000, so you could benefit not only from the future market rate of return, but also from having the price converge from your discounted price to the fair market value.

While many investors get caught up in daily stock price movements, we prefer to think about valuation in the same way as you would a real asset, such as the house in the example above. There is a fair market value of any business, and opportunities to purchase great businesses at less than that fair market value give investors an advantage in generating future returns.

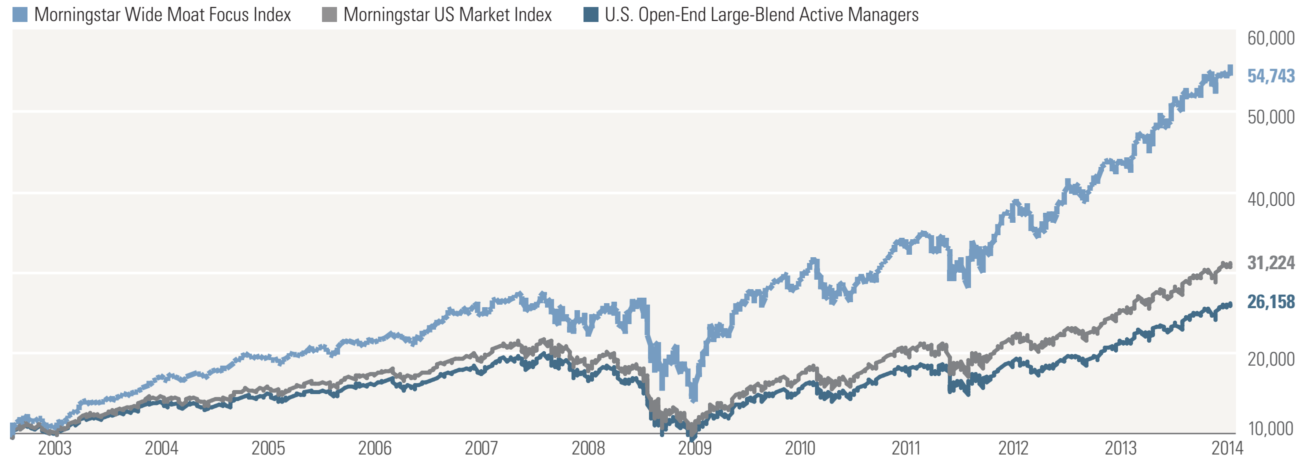
Morningstar Wide Moat Focus Index

In 2007, we introduced the Morningstar Wide Moat Focus Index to capture the systemic sources of active returns resulting from our Economic Moat Rating, outlined here. When constructing the Wide Moat Focus Index, we start with all U.S.-based and U.S.-traded corporations with a wide moat rating (excluding master limited partnerships), yielding approximately 150 companies eligible for the index. Then the companies are sorted by market price relative to Morningstar fair value estimates and to include the 20 securities trading at the largest discount to fair value. The holdings are equally weighted, and the index is rebalanced and reconstituted quarterly.

Based on actual moat ratings assigned over the previous decade, the Wide Moat Focus Index has back-tested results starting in mid-2002. As illustrated in Figure 6, the index has posted exceptionally strong performance, beating approximately 95% of large-cap active funds since inception.

Using Morningstar's differentiated economic moat framework in combination with the stock valuations that are based on long-term projected cash flow, our process has produced

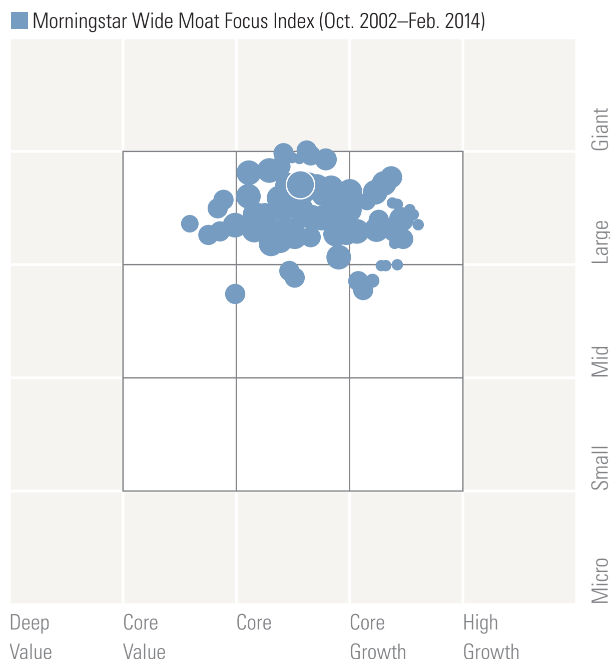
Figure 6. **Growth of a $10,000 Investment and Risk/Return** (Sept. 20, 2002–March 23, 2014)



	Total Returns 3-Years (%)	5-Years (%)	10-Years (%)	Standard Deviation (%)	Sharpe Ratio	Beta (%)	Max Drawdown (%)
Morningstar Wide Moat Focus Index	**18.25**	**26.10**	**12.70**	**19.03**	**0.76**	**1.14**	**-42.43**
Morningstar US Market Index	6.52	5.92	16.27	14.94	0.61	1.03	-50.76
U.S. Open-End Large-Blend Active Managers	5.88	6.16	14.96	14.63	0.52	1.01	-50.79

* Index performance data prior to October 2007 is hypothetical, but was calculated using the same methodology that has been in use by Morningstar since the index was first launched. As a result of the risks and limitations inherent in hypothetical performance data, hypothetical results used in the above chart may differ from the actual index performance. Investors cannot directly invest in the index.
Source: Morningstar

Figure 7. **Morningstar Wide Moat Focus Index Style Trail**
The index is plotted with each quarterly portfolio on the Morningstar Style Box.™ The February 2014 portfolio is circled in white. Given that wide-moat companies tend to have larger capitalizations, the index has generally landed in the large-cap row over the past decade.



Source: Morningstar

excess returns that have persisted through varying market environments. The strategies focused on economic moats have performed well over the last decade, which has seen two back-to-back commodity booms, a major financial crisis, a Great Recession, a boom-bust cycle in the housing markets, and a surprisingly strong rebound in corporate earnings. If a pre-requisite to properly evaluating an investment strategy is looking at it across a variety of market environments, the past decade certainly fits the bill.

Moats and the Markets

The Wide Moat Focus Index validates Morningstar's strategy to pay close attention to companies' competitive advantages—the importance of which the market persistently underestimates. Morningstar's equity research team has demonstrated a strong ability to identify the implications of economic moats when forecasting the long-run cash flows of businesses, increasing the probability of finding mispriced stocks and leading to a better investor experience. M