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Counterpoint Global Insights

Measuring the Moat

Assessing the Magnitude and Sustainability of Value Creation

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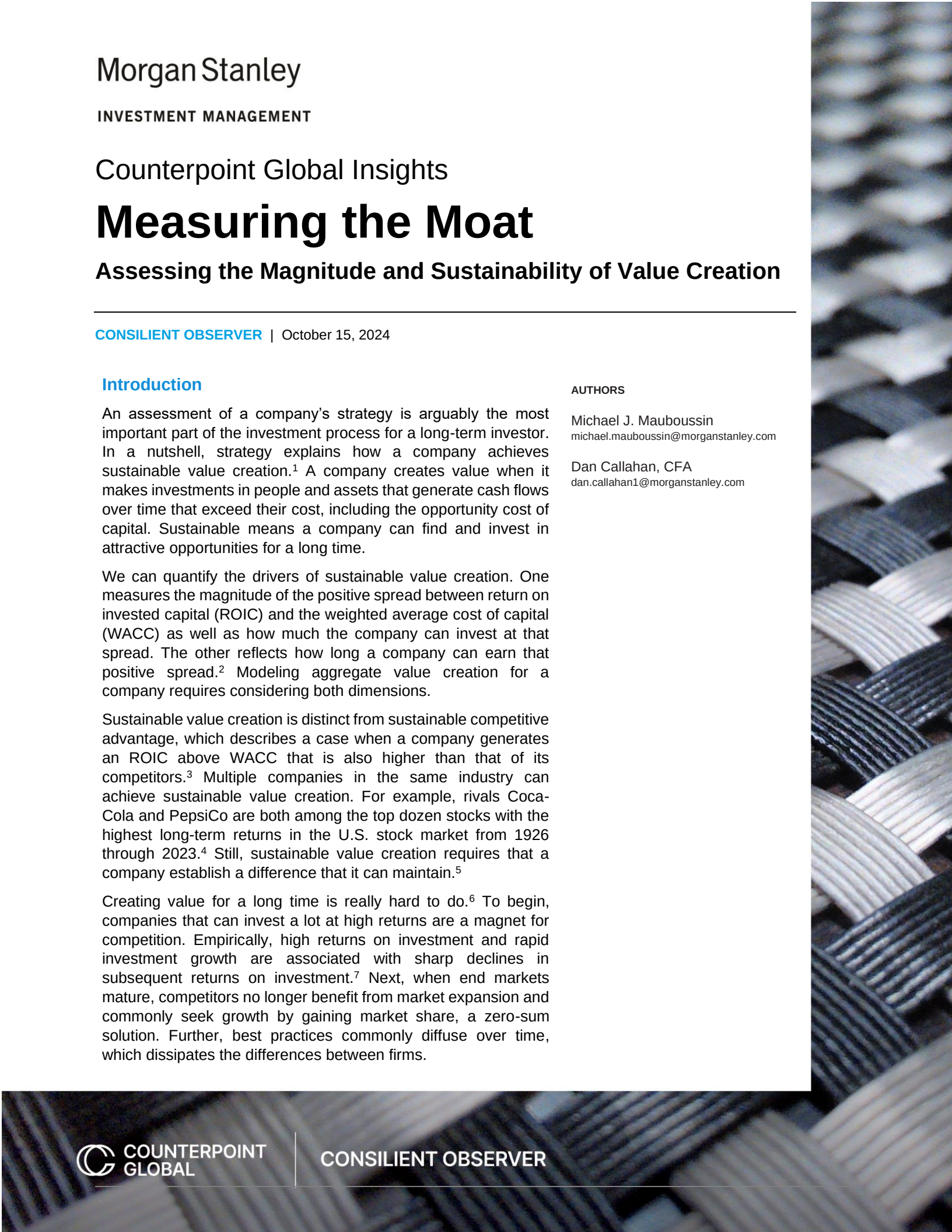
Introduction

An assessment of a company's strategy is arguably the most important part of the investment process for a long-term investor. In a nutshell, strategy explains how a company achieves sustainable value creation.[1] A company creates value when it makes investments in people and assets that generate cash flows over time that exceed their cost, including the opportunity cost of capital. Sustainable means a company can find and invest in attractive opportunities for a long time.

We can quantify the drivers of sustainable value creation. One measures the magnitude of the positive spread between return on invested capital (ROIC) and the weighted average cost of capital (WACC) as well as how much the company can invest at that spread. The other reflects how long a company can earn that positive spread.[2] Modeling aggregate value creation for a company requires considering both dimensions.

Sustainable value creation is distinct from sustainable competitive advantage, which describes a case when a company generates an ROIC above WACC that is also higher than that of its competitors.[3] Multiple companies in the same industry can achieve sustainable value creation. For example, rivals Coca-Cola and PepsiCo are both among the top dozen stocks with the highest long-term returns in the U.S. stock market from 1926 through 2023.[4] Still, sustainable value creation requires that a company establish a difference that it can maintain.[5]

Creating value for a long time is really hard to do.[6] To begin, companies that can invest a lot at high returns are a magnet for competition. Empirically, high returns on investment and rapid investment growth are associated with sharp declines in subsequent returns on investment.[7] Next, when end markets mature, competitors no longer benefit from market expansion and commonly seek growth by gaining market share, a zero-sum solution. Further, best practices commonly diffuse over time, which dissipates the differences between firms.



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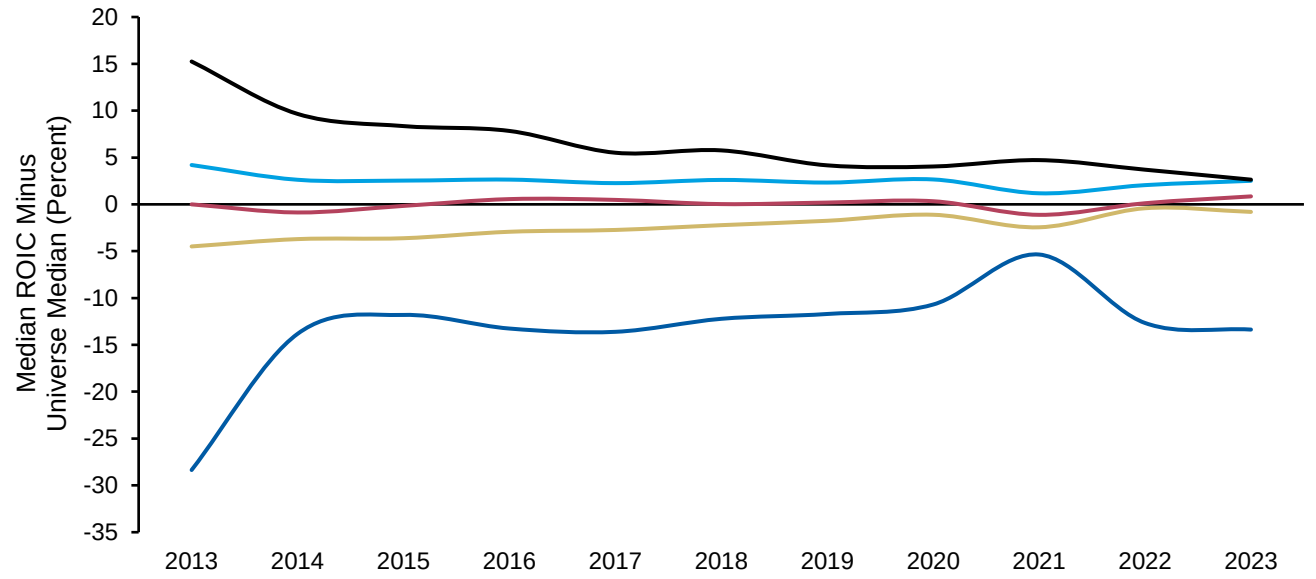
Finally, a good deal of corporate results are hard to explain and can be attributed to luck.[8] When luck plays a large role in determining outcomes in the short term, regression toward the mean tends to be rapid. Regression toward the mean says that outcomes that are far from the average are followed by outcomes with an expected value closer to the average. Exhibit 1 shows regression toward the mean for the ROICs of U.S. companies from 2013 to 2023. ROICs reverted substantially over the decade.[9]

Exhibit 1: Regression Toward the Mean by Quintile for U.S. Companies, 2013-2023



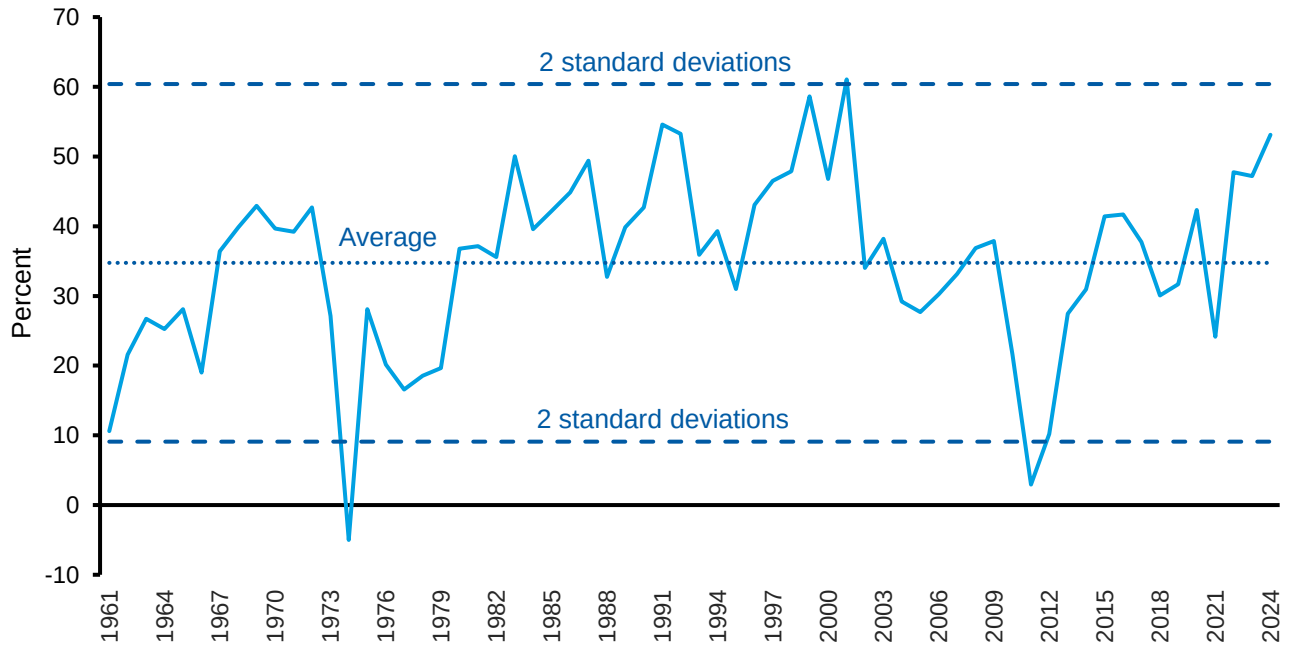
Source: Counterpoint Global and FactSet.
Note: Includes companies listed on the New York Stock Exchange, NASDAQ, and NYSE American; Excludes American depositary receipts and companies in the finance sector and those that do not have an ROIC every year; ROICs are based on the calendar year, adjusted for internally-generated intangible assets, and winsorized at the 1st and 99th percentiles.

Notwithstanding how hard it is to create value over time, there is lots of evidence that some companies do deliver persistently attractive returns on investment.[10] And the degree of persistence for public companies in the U.S., both in terms of what they report and what the stock market anticipates, appears to rise and fall over time.[11]

Value creation is important for investors for a number of reasons. One is that the price of a company's stock almost always anticipates future value creation. You can think of a stock price as having one part that reflects the value of the company operating at a steady state of profit and the other part that captures the value the company is expected to create or destroy with its future investments.[12]

Exhibit 2 shows the breakdown between these parts for the S&P 500, an index of approximately 500 U.S. stocks with the largest market capitalizations, from 1961 to mid-2024. On average, the steady-state value has been two-thirds of the price and the anticipated value creation the other one-third.[13] There have been bouts when the price reflected little or no future value creation (1974 and 2011) as well as significant future value creation (1999 and 2001).

Exhibit 2: Anticipated Value Creation for the S&P 500, 1961-2024



Source: Counterpoint Global, S&P Dow Jones Indices, Aswath Damodaran, FRED at the Federal Reserve Bank of St. Louis.
Note: Year-end results, except 2024, which reflects trailing 4 quarters through June 30, 2024.

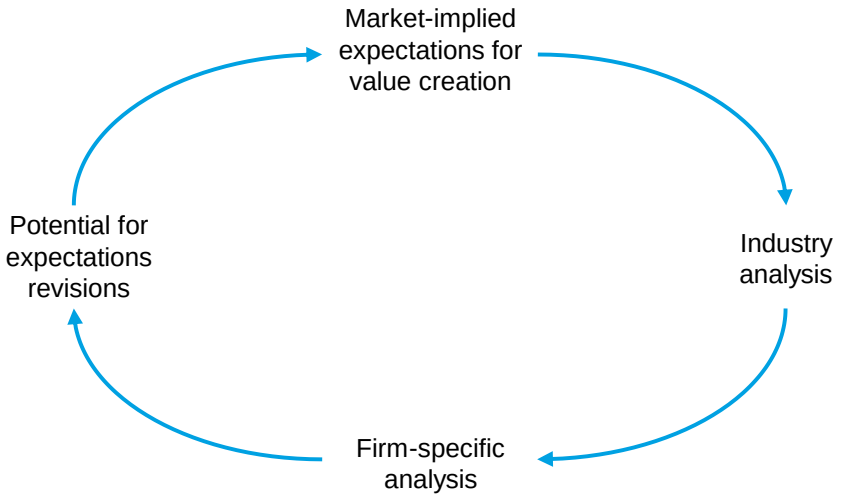
Another reason it is essential for long-term investors to understand value creation is that a shift in the competitive landscape can portend major revisions in the expectations that determine a stock price (see exhibit 3).[14] Stock prices reflect a set of expectations for future cash flows. We can measure these anticipated financial results using value drivers, including sales growth, operating profit margin, capital expenditures, and working capital needs.

Blockbuster Video is a good example of a business affected by a change in the competitive circumstances. In the early 2000s, it was the largest company in the movie rental business, with more than 9,000 stores and a $5 billion equity market capitalization. Notably, about 15 percent of Blockbuster's sales at its peak came from late fees, which customers did not like to pay.[15]

Netflix was launched in the late 1990s and improved the customer proposition for movie rental by mailing digital video discs (DVDs) directly to households, eliminating late fees, and eventually launching a streaming service in 2007. Netflix made the experience of renting a movie vastly more convenient and less onerous.

Netflix's disruption of the movie rental business led to a rapid reduction in expectations for Blockbuster, which filed for bankruptcy in 2010, and a sharp increase in expectations for its own business, which had a market capitalization of $290 billion as of mid-2024.

Exhibit 3: Relationship between Expectations and Competitive Strategy



Source: Counterpoint Global.

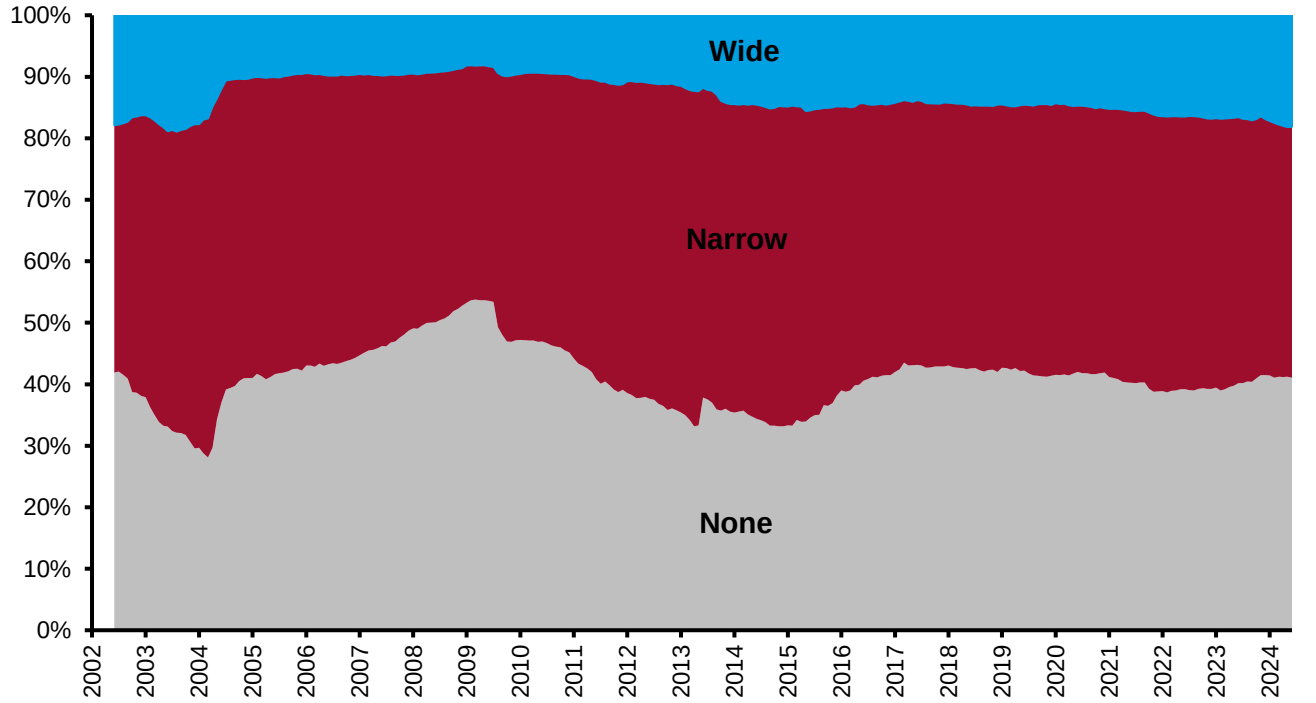
A second and more subtle version of expectations revisions happens when companies sustain an ROIC in excess of WACC for longer than the market anticipates. Investors commonly call the stocks of these companies "compounders." Research shows that these stocks generate higher total shareholder returns, adjusted for risk, than what standard asset-pricing models would suggest.[16]

Warren Buffett, chairman and chief executive officer (CEO) of Berkshire Hathaway, has long used the analogy of an economic moat around the business to capture the notion of sustainable competitive advantage. He said that moats should ideally be deep and wide so as to fend off marauders. Further, he has suggested that moats are almost always widening or narrowing, even if those changes are hard to perceive in the short run.[17] While he seeks businesses that will succeed today as well as over time, he looks for executives who prioritize widening the moat over delivering short-term results.[18]

Morningstar Inc., a financial services firm, uses five perceived sources of moats—network effect, intangible assets, cost advantage, switching costs, and efficient scale—and designates an economic moat rating for many of the companies of the stocks it follows. They define a company as having a wide moat if its competitive advantage is expected to last for more than 20 years, a narrow moat for 10 to 20 years, and no moat if competitive advantage is transient or nonexistent.[19]

Exhibit 4 shows the distribution of Morningstar's economic moat ratings from 2002 to mid-2024. Of the more than 1,600 companies evaluated in 2024, about 17 percent were deemed to have a wide moat, with the rest split roughly equally between a narrow moat or no moat.

Exhibit 4: Distribution of Morningstar's Economic Moat Ratings, June 2002-June 2024



Source: Counterpoint Global and Morningstar Direct.

This report seeks to provide a systematic framework for measuring a company's moat. We published the first version of this research in 2002 and updated it in 2016. This edition has more comprehensive data and analysis, especially with the use of ROIC, accounts for intangible investments, provides new work on company life cycles, and reflects some of the latest studies from the academic and practitioner communities.

We start by discussing why strategy matters through a review of performance decomposition. We also distinguish between industry and company life cycles.

Next, we turn to industry analysis. That starts with getting the lay of the land and is followed by a discussion of industry structure. We finish with a framework for disruption and how to think about vertical versus horizontal integration.

After looking at the industry we turn to firm analysis, including how companies add value.[20] We discuss the sources of added value and review pricing decisions, the impact of government action, and the role of brands.

We end with a checklist to guide the assessment of sustainable value creation. Appendix A includes a substantial amount of data on public companies in the U.S. since 1963, and appendix B summarizes stylized facts about industry development.

Why Strategy Matters

The spread between ROIC and WACC is a good proxy for value creation, and the stock market tends to reflect this metric.[21] ROIC is defined as net operating profit after taxes (NOPAT) divided by invested capital. You can think of it as how much the company makes (NOPAT) compared to how much it has spent on its business (invested capital).

Having a positive ROIC is not enough because capital has an opportunity cost, the value of the next best alternative for spending that capital. Imagine the opportunity to acquire two streams of identical cash flows with one priced to yield 5 percent and the other 7 percent. Allocating capital to the series that earns 5 percent fails to earn the opportunity cost of capital because there is an alternative available that earns 7 percent.

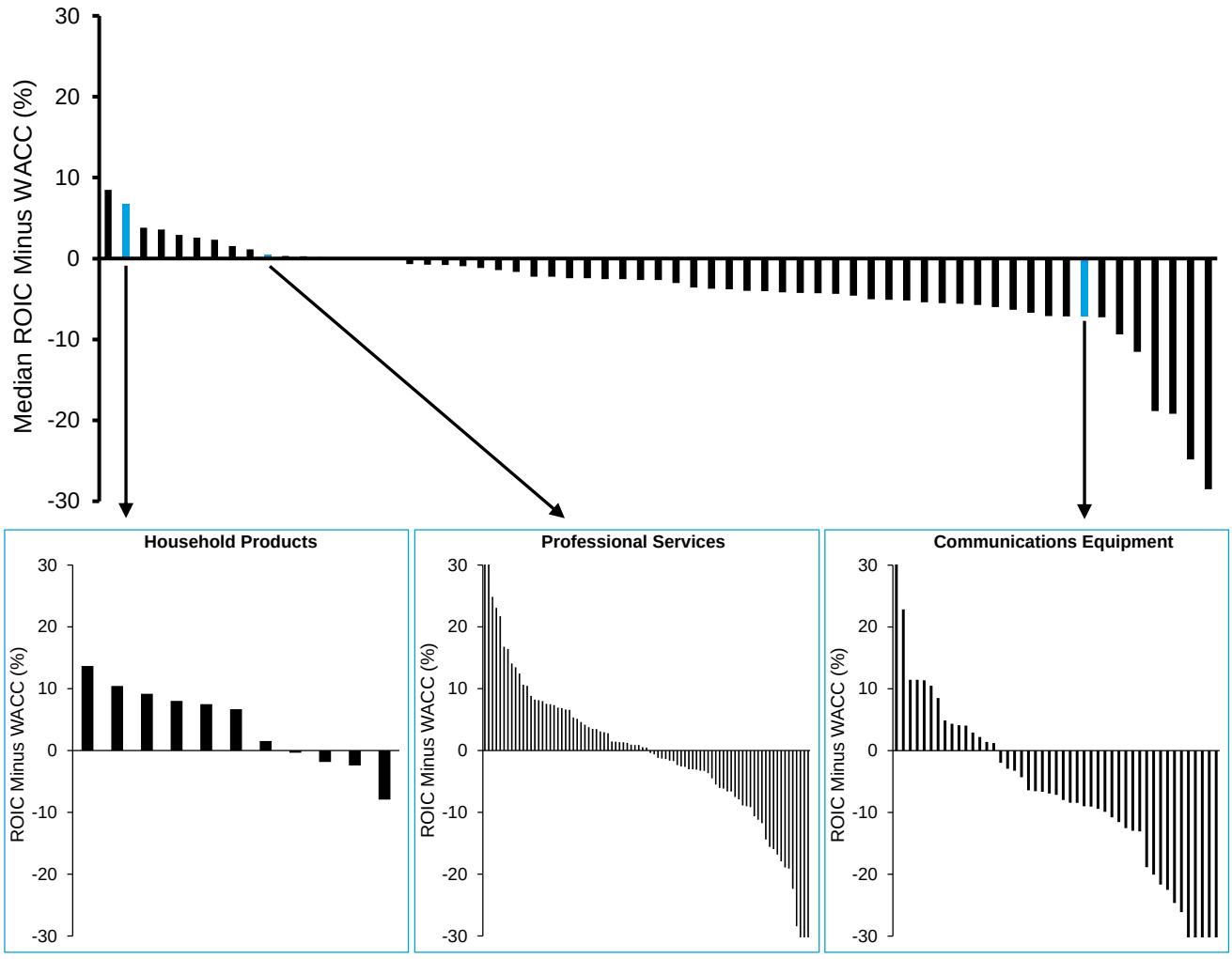
Analysis of a company's strategic position and prospects is not an academic exercise. The goal is to determine whether a company's strategy will allow it to produce sustainable value creation, which is what the spread between ROIC and WACC measures.[22] Later, we will see how specific strategies can lead to different paths to ROIC. But for now, we want to emphasize that there is an absolute threshold for value creation.

It comes as no surprise that there is a lot of variance in the ROIC-to-WACC spreads for businesses. This is true because companies are of all ages, have managements with differing skills, compete in a range of industries, and pursue distinct strategies.

The top section of exhibit 5 shows the spread between ROIC and WACC for 63 industries in the U.S. in 2023. (Appendix A includes ROICs by industry, calculated traditionally and adjusted for internally-generated intangible assets, for U.S. companies from 1963-2023.) Some industries have positive spreads, others are roughly neutral, and the rest have negative spreads. The bottom of the exhibit features three industries, one with a positive spread, one that is neutral, and one with a negative spread, and zooms in on the ROIC-to-WACC spreads of the companies in those industries.

The striking feature of this exhibit is the similarity between the pieces and the whole. Industries that create value in the aggregate nonetheless have companies that have neutral and negative spreads. And industries that destroy value in the aggregate still have companies that create value. This analysis tells us that industry alone does not seal a company's fate for value creation.

Exhibit 5: ROIC minus WACC for U.S. Industries, 2023



Source: Counterpoint Global and FactSet.
Note: Includes companies listed on the New York Stock Exchange, NASDAQ, and NYSE American; Excludes American depositary receipts and the finance sector; Industries are based on the Global Industry Classification Standard; ROICs are based on the 2023 calendar year and adjusted for internally-generated intangible assets; Y-axes of professional services and communications equipment charts truncated for visualization purposes.

Performance Decomposition. There has been a lot of academic research using variance decomposition to explain corporate performance. Most of these studies use return on assets (ROA) as a measure of performance and attempt to break down ROA into components.[23] ROA is defined as net income divided by assets and is a much blunter measure than ROIC. Not surprisingly, there are many choices in how the researchers can conduct these studies, including which companies they include in the sample and what period they choose to analyze.

That noted, most studies consider four common factors that contribute to variance:[24]

- **Year.** Reflects the macroeconomic determinants of the business cycle.
- **Industry.** Incorporates the impact of industry on an individual company's results.
- **Company.** Captures the characteristics unique to a company, such as resources and competitive position.
- **CEO/Leadership.** The role of leadership, which includes strategic decision-making, human capital management, and capital allocation.

Different studies come to a range of conclusions about each of these factors, but broadly company effects appear to be the most important, followed by industry and CEO/leadership effects that are in the same range. The year effect seems to be the least important.[25]

A critical point about these studies is that they typically explain less than one-half of the variance. Today's models have limited explanatory power, whether the result of luck or unidentified factors.

That said, investors can study a meaningful part of corporate performance. And these results suggest that an assessment of industry and strategy, captured by the company and CEO/leadership factors, is worthwhile.

Peter Lynch, who delivered outstanding portfolio returns while running the Magellan Fund at Fidelity Investments, famously quipped, "When somebody says, 'Any idiot could run this joint,' that's a plus as far as I'm concerned, because sooner or later any idiot probably is going to be running it."[26]

A detailed analysis of leadership is outside the purview of this discussion, but there are a few observations worth sharing. First, the dispersion of CEO talent appears to be small among the top 250 companies.[27] Second, the impact of leadership varies by industry.[28] This may seem inconsistent with the first point, but one way to think about it by analogy is that the impact of coaches varies by sport. For instance, coaches in the National Basketball Association have a larger impact on outcomes than do managers in Major League Baseball.[29] One way to interpret Lynch's comment is that you want to find businesses where leadership is not the key to success. Finally, there is some evidence that the impact of the CEO has increased over time.[30]

Fundamentally, strategy operates at the corporate level and business unit level. A large part of leadership is figuring out where to play (corporate level) and then developing and executing a thoughtful strategy about how to play in order to achieve sustainable value creation (business unit). While this discussion may appear to suggest that the firm is the focus of analysis, the proper unit of analysis is each of a company's strategic business units that operate in a distinct industry.

There is also a link between strategy and company life cycle. As we will discuss below, industries tend to pass through stages as they mature. The evolution through the stages is marked by certain patterns of entry and exit, changes in market share instability, and a shift in focus from product to process innovation. But company life cycle is different than industry life cycle because companies can compete in multiple industries that are at stages of development that are different from one another.

Company Life Cycles. Company life cycles are commonly depicted anthropomorphically by using age. This is a limited measure considering that industries move through the life cycle at different rates, some firms learn faster than do their competitors, and age itself can be calculated in multiple ways. Further, the ROICs for companies sorted by age (assuming birth is the date of the initial public offering) fail to produce the pattern associated with a life cycle of an inverted "U," with ROIC starting low, reaching an apex, and then drifting lower.

Victoria Dickinson, a professor of accounting, devised a method to place companies in the life cycle based on patterns of results from the statement of cash flows.[31] Specifically, she matches the eight (2^3) possible combinations of inflows or outflows from operating, investing, and financing activities to five stages of the life cycle. The stages are introduction, growth, maturity, shake-out, and decline. Nearly three-quarters of companies are in the growth or maturity stage over time.

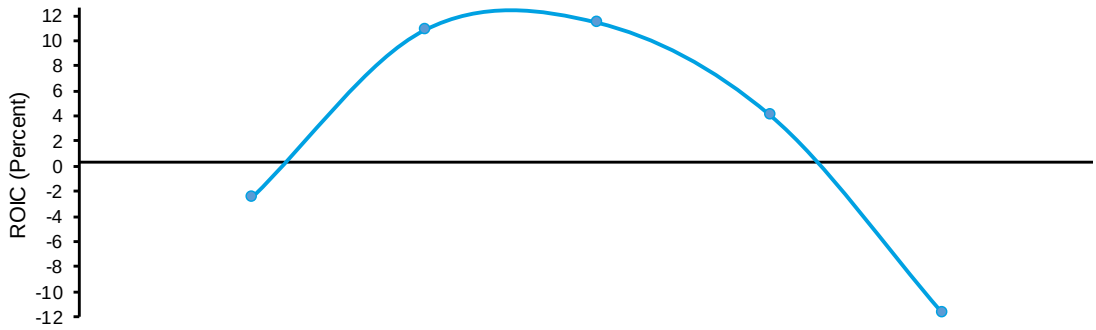
The virtue of Dickinson's approach is that companies can move forward or backward through the life cycle. For example, a business in the maturity stage may revert to the growth stage if it identifies an investment opportunity in a new industry.

We took Dickinson's classification scheme and applied it to U.S. companies, excluding companies in the finance sector.[32] We also made three adjustments to the statement of cash flows to better reflect how companies spend and earn. First, we moved stock-based compensation (SBC) from cash flow from operations to cash flow from financing. Second, we relocated intangible investment from cash flow from operations to cash flow from investing. Finally, we removed the purchases and sales of marketable securities from cash flow from investing.

Exhibit 6 shows that the approach produces the pattern we associate with the life cycle. The exhibit also provides vital statistics by stage, including ROIC, age (both since the date of founding and of the initial public offering), and sales growth rates. Our research also measures transitions from one stage to another and the associated total shareholder returns.

We would add that defining what constitutes an industry, or accurately measuring related concepts such as market concentration or market share, can be very tricky. At a high level, analysts can consider companies to be in the same industry if they have common suppliers and buyers or similar competitive intent. But there are a lot of nuanced cases.[33]

Exhibit 6: Results of Dynamic Life Cycle Analysis, 1985 to 2023



	Life Cycle Stage				
	Introduction	**Growth**	**Maturity**	**Shake-Out**	**Decline**
Statistic					
ROIC (%)	-2.8	10.6	11.2	3.8	-12.0
Age since founding (years)	15.0	19.0	37.0	33.0	19.0
Age since IPO (years)	5.2	5.1	9.2	10.1	8.1
Sales growth (%)	12.7	12.0	6.3	4.6	5.6
Percent of sample	7.4	38.2	36.1	6.6	11.7
Cash Flow Type					
Operations	Outflow (-)	Inflow (+)	Inflow (+)	Inflow/inflow/outflow	Outflow (-)
Investing	Outflow (-)	Outflow (-)	Outflow (-)	Inflow/inflow/outflow	Inflow (+)
Financing	Inflow (+)	Inflow (+)	Outflow (-)	Inflow/outflow/outflow	Inflow/outflow

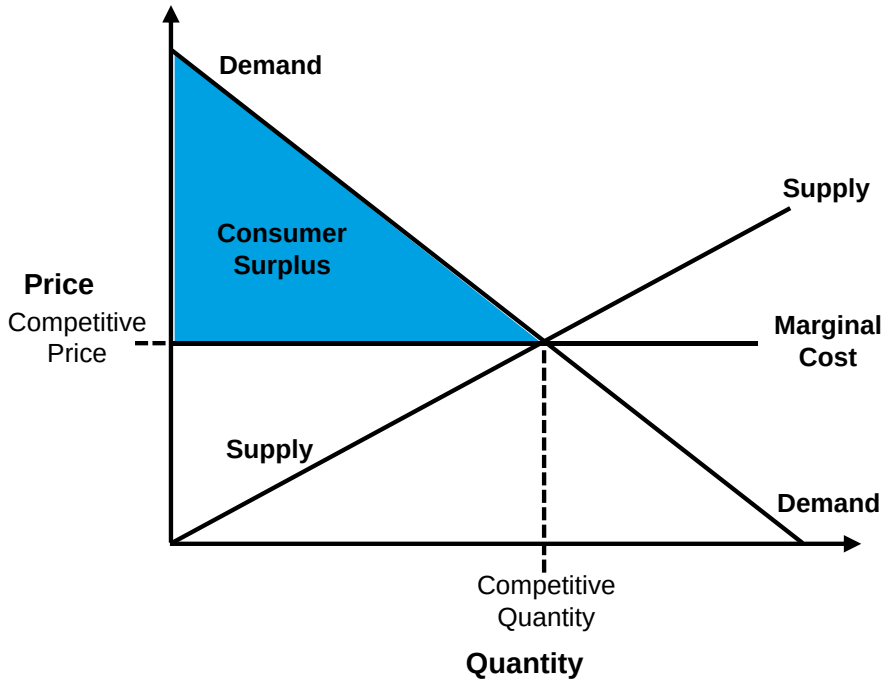
Source: Counterpoint Global, Compustat, and FactSet.
Note: Includes companies listed on the New York Stock Exchange, NASDAQ, and NYSE American; Excludes American depositary receipts and companies in the finance sector; Ages are medians, Sales growth is nominal for next 3 years, annualized; ROICs are based on aggregate amounts and adjusted for internally-generated intangible assets; IPO=initial public offering.

The Microeconomics of Value Creation

We pointed out that strategy explains how a company achieves sustainable value creation and why that matters. A logical follow-up question is how strategy is linked to earning an ROIC above WACC.

The answer takes us to a foundational concept in economics, supply and demand curves (see exhibit 7). The vertical, or y-axis measures price and the horizontal, or x-axis is quantity. The demand curve represents the willingness to pay (WTP) of consumers. WTP is the maximum amount a consumer is willing to spend on a good or service. Consumers vary in their WTP, but overall demand for a good or service is low when the price is high and high when the price is low. The supply curve captures the cost, or willingness to sell (WTS), for producers. WTS is the minimum amount a supplier will accept to provide a good or service. Suppliers will provide lots of a good or service when prices are high and will not produce as much when prices are low.

Exhibit 7: Supply and Demand Curves and Competitive Equilibrium



Source: Counterpoint Global.

When there is perfect competition, the point at which the demand and supply curves meet determines the price of the good or service. This is where willingness to pay and the marginal cost of production intersect. The price reaches this point because the producer with the lowest cost will drop its price to that level to gain market share. The marginal cost includes the cost of capital.

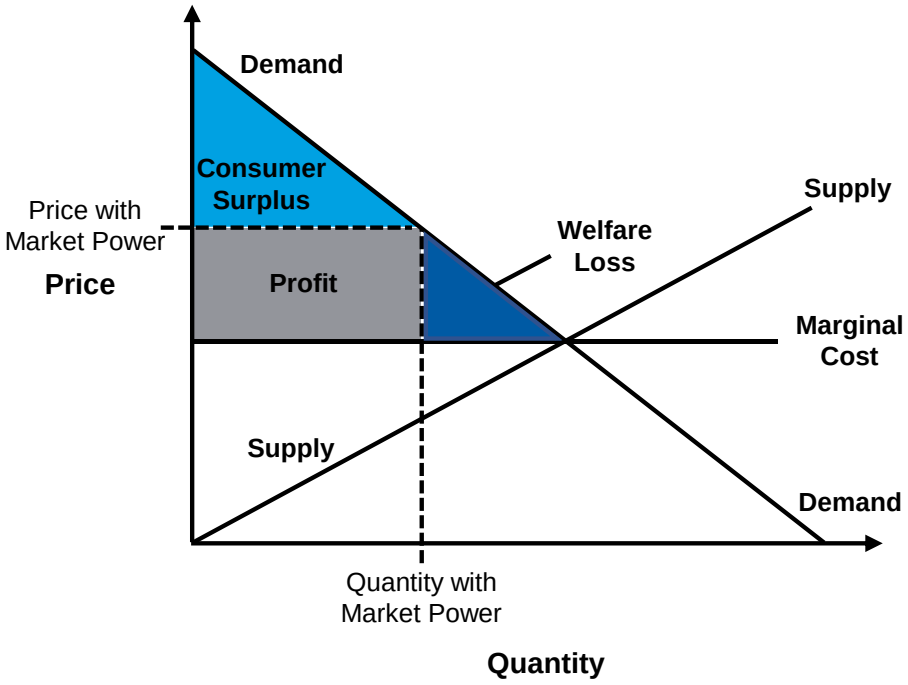
In this idealized world, ROIC equals WACC and companies neither create nor destroy shareholder value. Note, too, that consumers with a willingness to pay above the clearing price enjoy a surplus. Economists measure this with utility, which reflects satisfaction. The triangle in the upper left corner quantifies this aggregate value.

But strategy is about figuring out how to create value. This means achieving what economists call "market power," or "the ability of a firm to raise prices above costs and generate excess profits."[34] Economists measure this with what they call a "markup." The industries and companies in exhibit 5 that have positive spreads between ROIC and WACC can be said to have market power as quantified with markups.

Exhibit 8 shows the same demand and supply curves, but it now the price reflects market power because it is set above the marginal cost. The triangle that was all consumer surplus in exhibit 7 is now broken into three parts. Consumer surplus still exists but there is less of it. There is also welfare loss, which reflects the loss to consumers who have a willingness to pay between the higher price and the marginal cost, and would have purchased the good or service at the marginal cost.

But we now have an economic profit for producers. Strategy is about figuring out a way to earn that economic profit in a sustainable way. Note that even this simple analysis reveals that companies can add value by increasing willingness to pay (shifting the demand curve), lowering costs (shifting the supply curve), or doing both at the same time.

Exhibit 8: Supply and Demand Curves and Competitive Equilibrium



Source: Counterpoint Global.

Some economists have argued that markups, measured using sales and cost of goods sold, have risen in the U.S. This has raised concerns about the competitiveness of markets. Others have pointed out that much of the rise in markups reflects a failure to reflect intangible investment in the cost, and that the rise is vastly gentler following those adjustments.[35] Exhibits 45 and 46 in appendix A show markups with and without adjustments for intangible investment from 1963 to 2023.

We now turn to industry analysis.

Industry Analysis—Lay of the Land

The goal of industry analysis is to understand the factors that affect a firm's profitability, determine where the profits are in the industry, assess the industry's stability and concentration, and get a broad sense of industry structure.

Michael Porter, a professor at Harvard Business School and widely considered the leading scholar on competitive strategy, developed the five-forces framework to help assess the structure of an industry. This analysis allows a company to figure out how to position itself to thrive. We place special emphasis on two of the forces: threat of new entrants and rivalry among existing firms.

New businesses can disrupt companies that have strong competitive positions. Understanding how this happens is useful, as we saw with the prior discussion about Blockbuster Video and Netflix. We also touch on when vertical or horizontal integration makes more sense for an industry or company.

Industry Map. Constructing an industry map is a good place to start the analysis of an industry.[36] Exhibit 9 is an example for the U.S. airline industry. The goal is to include all of the companies or entities that may have an impact on the profitability of the firm you are analyzing. Suppliers, which provide the firm with its inputs, are typically on the left side of the map. Customers, the purchasers of goods or services, are on the right. We also consider factors such as government regulations, tariffs, and labor markets.

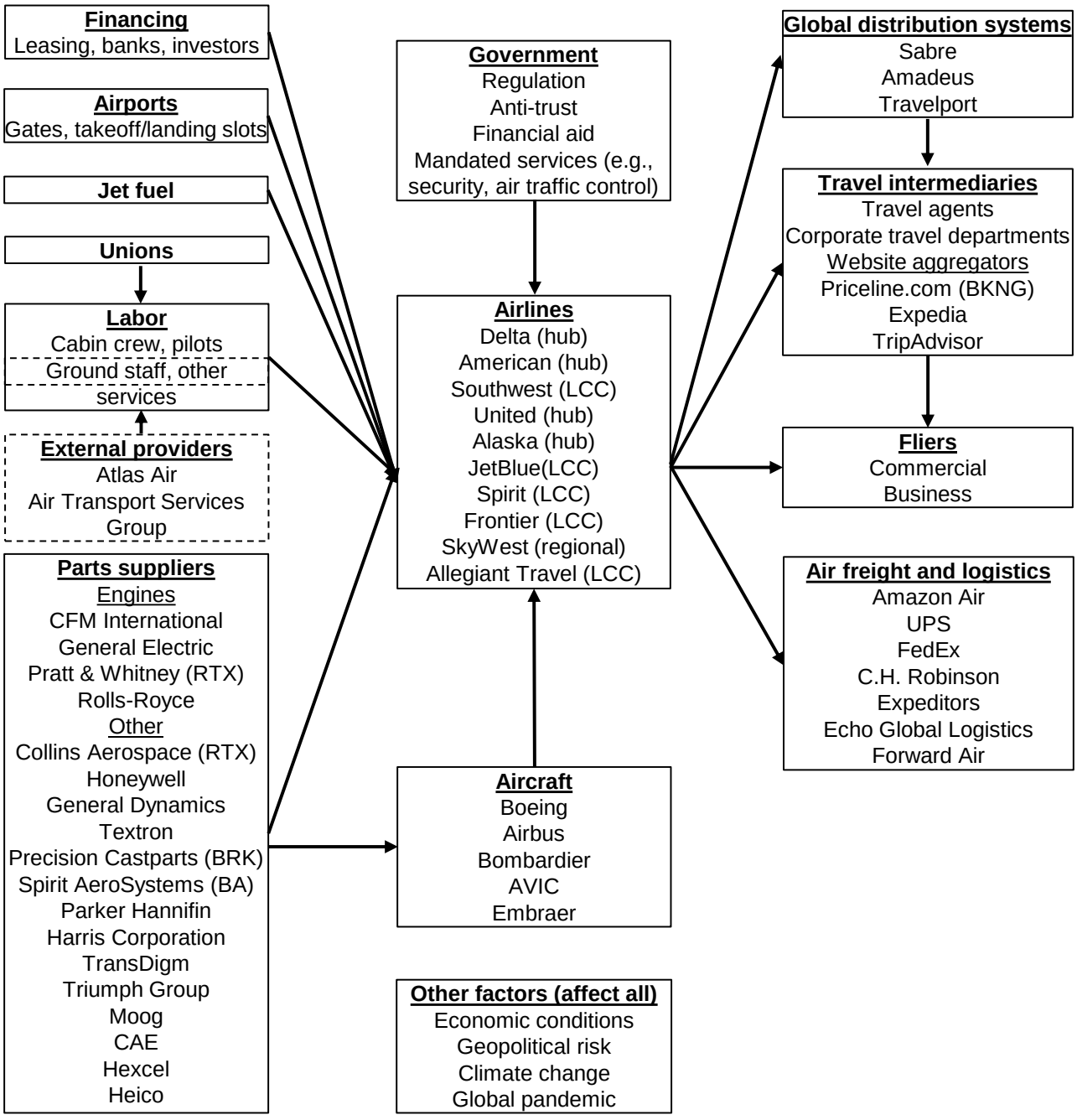
We recommend listing firms in each section in terms of market share so that relative size is immediately evident. Further, it is useful to include potential new entrants to the degree that they can be identified or contemplated.

It is also important to understand the nature of the economic interactions between the organizations on the map. For example, relationships may be non-contractual (travelers buying airline tickets), contractual (software-as-a-service), a cost-plus contract (government acquiring defense systems), a best-efforts contract (an investment bank underwriting a security for an issuer), a license (a movie based on a doll), an option (an airline purchasing aircraft), or some other arrangement. Identifying potential agency costs is also useful. These costs arise when an agent, a party acting on behalf of another firm that is the principal, takes actions that harm the principal.

Finally, the map will ideally include any other factors that might affect the profitability of the focal firm. For airlines, these might include overall economic conditions, geopolitical risks, climate change, and global pandemics.

Research shows investors may profit from understanding the connections that industry maps identify.[37] Specifically, when shocks to one firm in the system affect other companies, because of either supply or demand links, the market often fails to reflect the information on a timely basis. This produces an opportunity to trade profitably. Further, sell-side equity analysts who follow suppliers and customers produce earnings forecasts that are more accurate on average than analysts who follow only suppliers.[38]

Exhibit 9: Map of U.S. Airline Industry



Source: Counterpoint Global.
Note: LCC = low-cost carrier.

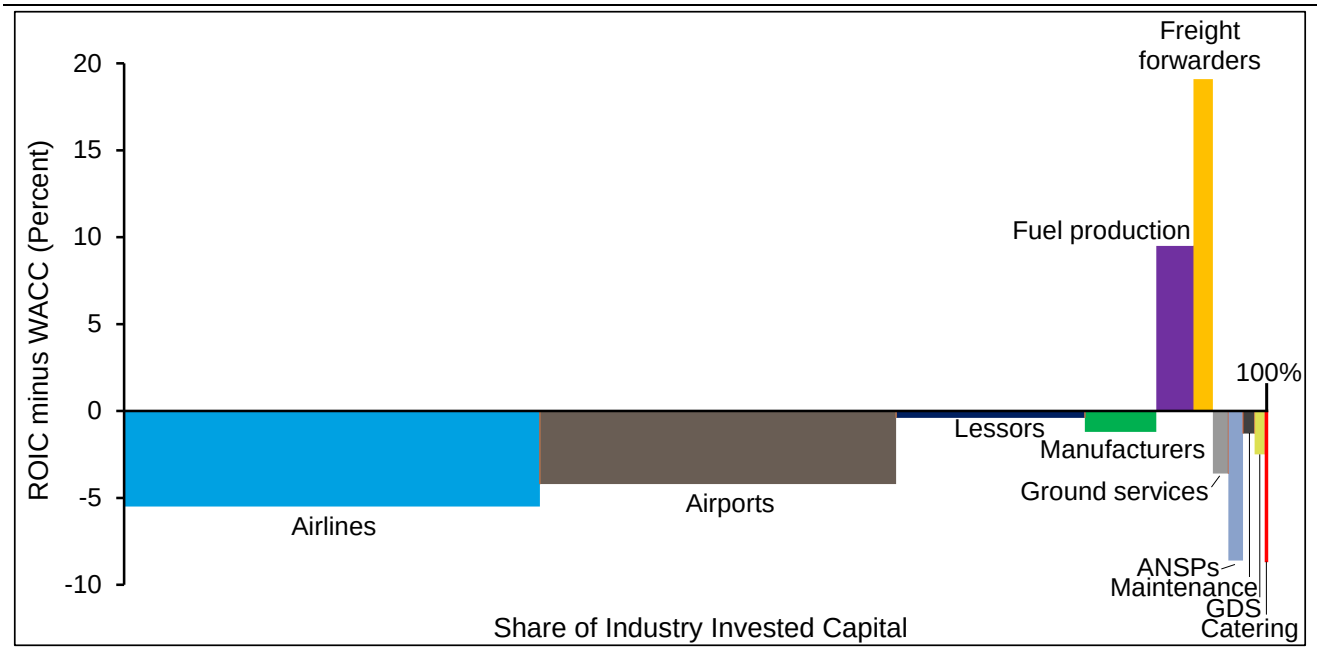
Profit Pool. Now that we have a sense of the relevant companies and entities in an industry, we turn to understanding how the economic profit is distributed among the participants. Creating a profit pool is an effective tool for this analysis.[39]

Economic profit equals the spread between ROIC and WACC times invested capital (Economic Profit = [ROIC − WACC] × Invested Capital). In a profit pool, the difference between ROIC and WACC is on the y-axis, and invested capital is on the x-axis.

The way to interpret a profit pool is that the y-axis shows value creation as a percent (width), and the x-axis shows how much money is invested (length). The economic profit for a company equals its area (width × length). At a glance, a business analyst can see where the money is being made.

Exhibit 10 is a profit pool for the full aviation industry for 2022. A majority of the invested capital is in airlines and airports, both of which have negative economic profit. Some businesses, including fuel production and freight forwarders, do have positive economic profit, but their invested capital is relatively small. In the aggregate, the economic profit for this collection of businesses was negative $69 billion in 2022.[40]

Exhibit 10: Aviation Industry Profit Pool by Activity, 2022



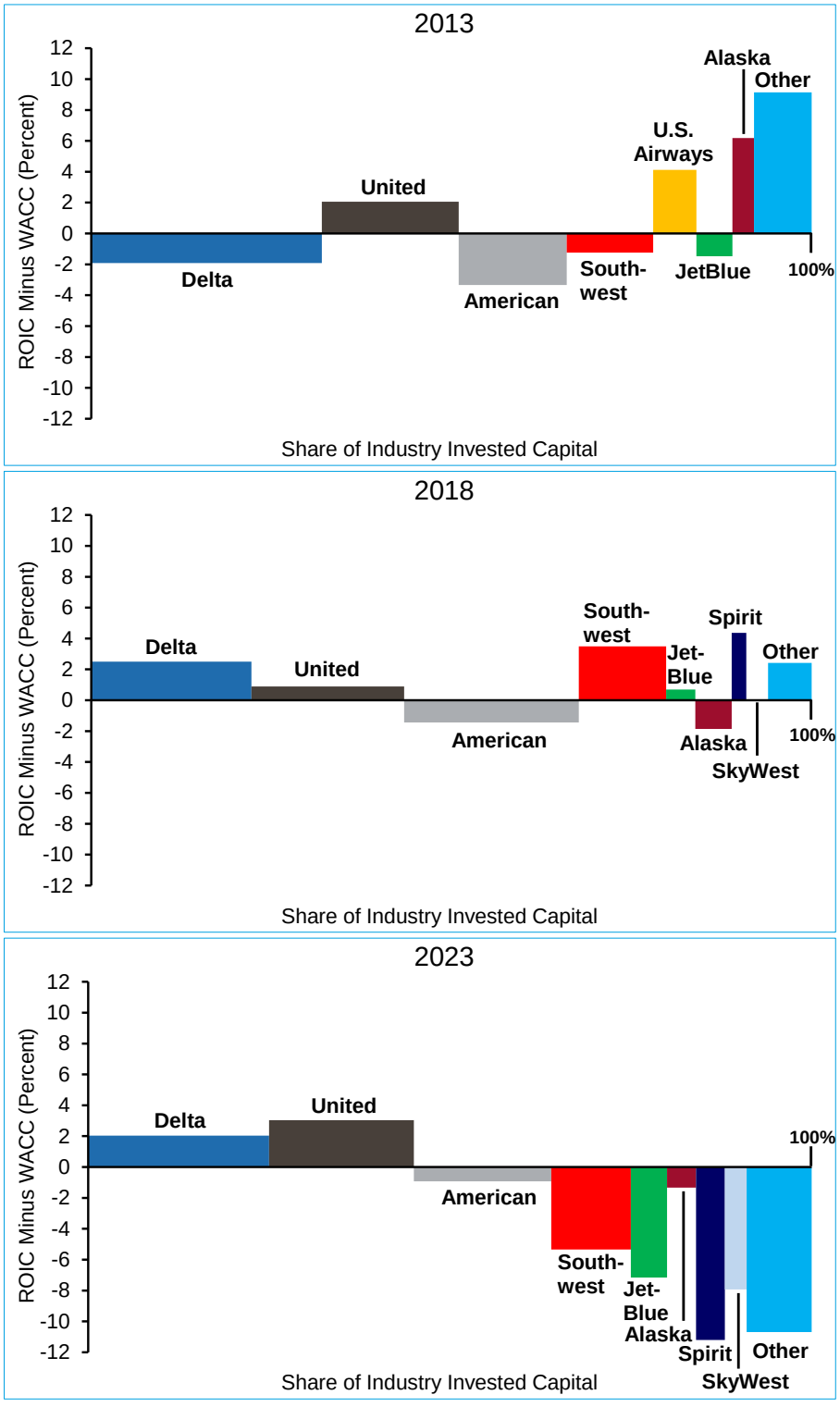
Source: Counterpoint Global based on IATA, "Aviation Value Chain: An Analysis of Investor Returns in 2022 within the Aviation Value Chain," IATA Brief*, February 15, 2024 and Jaap Bouwer, Vik Krishnan, Nina Lind, and Steve Saxon, "Checking in on the Aviation Value Chain's Recovery,"* McKinsey & Company*, October 25, 2023.*
Note: ANSP = Air navigation service provider and GDS = Global distribution system.

A few points are useful to bear in mind when using profit pool analysis. First, looking at results over a business cycle is generally instructive because it reduces the impact of short-term or cyclical factors.[41] Second, periodic snapshots can indicate how competitive dynamics change over time. Specifically, profit pools show the evolution of a company's absolute and relative economic profit.

Finally, large profit pools may indicate opportunities or threats. It has been reported that "your margin is my opportunity" was a favorite aphorism of Jeff Bezos, founder and executive chairman of Amazon.[42] Bezos's maxim suggests a company's large economic profit may draw competitors seeking to capture some of that profit. The threat is that challengers are constantly trying to drain the biggest profit pools.[43]

Exhibit 11 shows the profit pool for the U.S. airline industry in 2013, 2018, and 2023. The first thing to notice is that the big four airlines, Delta, United, American, and Southwest, represent more than three-fourths of the industry's invested capital in each year. Each also contributed to industry consolidation over the past 20 years.[44]

Exhibit 11: Profit Pool – U.S. Airline Industry by Company



Source: Counterpoint Global and FactSet.
Note: ROICs are adjusted for internally-generated intangible assets and reflect calendar years.

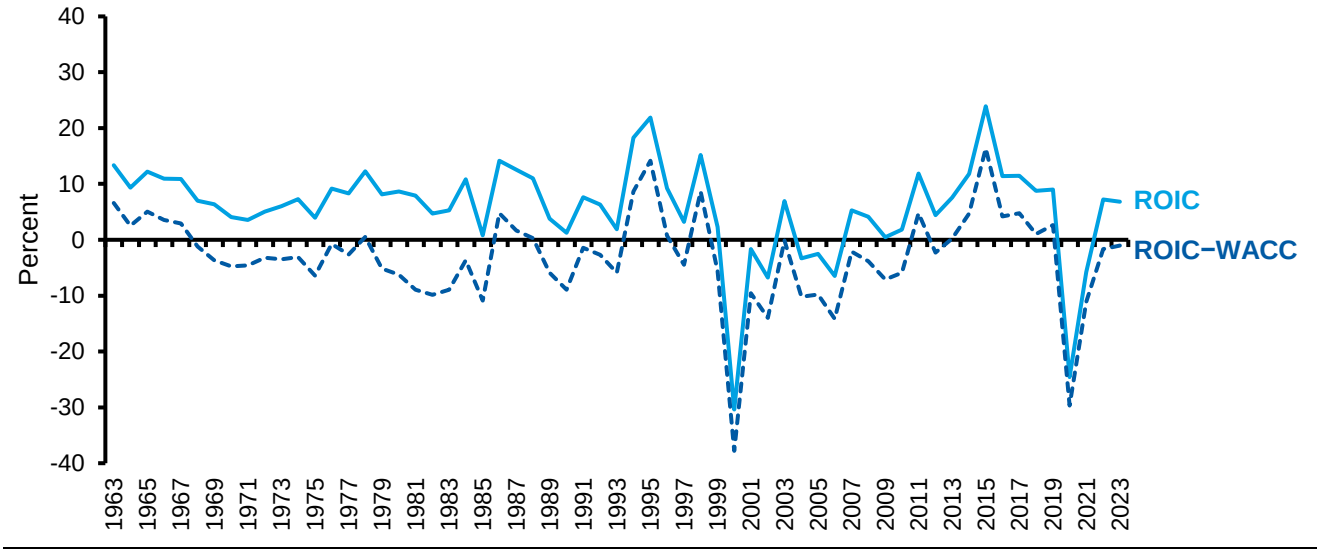
In 2013, the industry created more than $315 million in economic profit on about $125 billion of invested capital. Of the big four airlines, all but United had negative economic profit, although the economic losses were modest. Smaller airlines, including U.S. Airways, Alaska, and "other," drove the overall gain.

In 2018, the aggregate economic profit for the industry was $1.8 billion on roughly $180 billion of invested capital. Three of the four big carriers had positive economic profit, as the benefits of industry consolidation started to accrue to the acquirers.

Things took a turn for the worse in 2023, with negative economic profit of $3 billion on an invested capital base of nearly $220 billion. The industry was still recovering from the large negative shock caused by the COVID-19 pandemic. Notably, Delta and United still produced positive economic profit.

Exhibit 12 shows that from 1963 to 2023, the U.S. airline industry has failed to earn a consistently positive spread between ROIC and WACC. We discuss below the forces that determine the structure of the airline industry.

Exhibit 12: ROIC and ROIC – WACC for the U.S. Airline Industry, 1963-2023



Source: Counterpoint Global, Compustat, and FactSet.
Note: ROICs are based on aggregate amounts, are adjusted for internally-generated intangible assets, and reflect fiscal years for 1985-1996 and calendar years for 1997-2023.

In reviewing profit pools over time, consider whether there is a narrative that explains how and why the aggregate economic profit has changed as well as how those profits have been divvied up among the companies.

Market Share Instability. The simple premise of this analysis is that market share stability is favorable for sustainable value creation and instability makes it harder for any individual company to consistently create value. Sources of instability include new entrants, technological change, shifts in consumer demand, and competitive actions such as price cuts.[45] Market share instability measures mobility within an industry and helps explain the nature of rivalry.[46]

While methods to measure market share instability have been around for more than a half century, Bruce Greenwald, an emeritus professor of finance at Columbia Business School, taught an approach based on the average absolute value of the change in market share.[47] In this analysis, you observe the market shares for each company within an industry over two periods, usually three to five years apart, and calculate the absolute value of the change for each. You use those figures to determine the average absolute value change. Exhibit 13 provides an example for four industries.

Exhibit 13: Measure of Market Share Instability

Search Engine (U.S. on All Platforms)	2018	2023	5-Year Change
Google	87%	89%	2%
Bing	7%	7%	0%
Yahoo!	5%	3%	3%
DuckDuckGo	1%	2%	1%
Others	0%	0%	0%
Total	100%	100%	
Average Absolute Change			1%

Auto Manufacturing (U.S. by Units)	2018	2023	5-Year Change
General Motors	17%	17%	0%
Ford Motor Company	14%	13%	1%
Toyota Motor Corp	14%	14%	0%
Stellantis	13%	10%	3%
Nissan Motor Co	9%	6%	3%
Honda Motor Company	9%	9%	1%
Hyundai Kia Auto Group	7%	11%	3%
Subaru Corporation	4%	4%	0%
Volkswagen Group	4%	4%	0%
Daimler	2%	2%	0%
BMW Group	2%	3%	1%
Mazda	2%	2%	1%
Tesla	1%	3%	2%
Other	1%	2%	1%
Total	100%	100%	
Average Absolute Change			1%

Web Browser (Global on All Platforms)	2018	2023	5-Year Change
Chrome	59%	64%	5%
Safari	14%	20%	5%
UC Browser	7%	1%	6%
Firefox	5%	3%	2%
Opera	4%	3%	1%
Internet Explorer	3%	0%	3%
Samsung Internet	3%	3%	0%
Edge Legacy	2%	0%	2%
Android	2%	1%	1%
Other	2%	6%	5%
Total	100%	100%	
Average Absolute Change			3%

Social Media (Global on All Platforms)	2018	2023	5-Year Change
Facebook	69%	66%	2%
Pinterest	13%	7%	6%
Twitter	7%	10%	3%
YouTube	7%	4%	3%
Instagram	2%	12%	10%
Tumblr	1%	0%	1%
Reddit	1%	1%	0%
Other	1%	1%	0%
Total	100%	100%	
Average Absolute Change			3%

Source: Counterpoint Global, www.goodcarbadcar.net (autos), and Statcounter (search engine, web browser, social media).

Our rule of thumb is that industries with five-year changes in market share of two percent or less are relatively stable, while changes of more than two percent indicate instability. Exhibit 14 shows the market share instability analysis for the U.S. airline industry from 2018 to 2023. The market shares are relatively consistent.

Exhibit 14: Market Share Instability Analysis – U.S. Airline Industry, 2018-2023

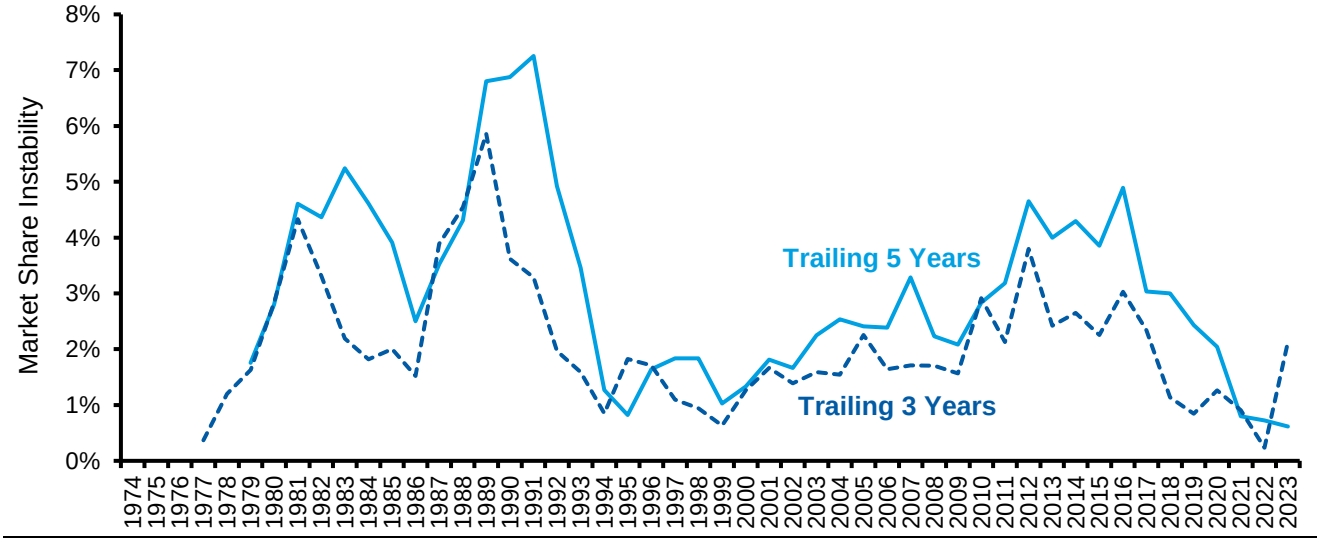
Company	2018	2023	5-Year Absolute Value Change
American Airlines	18%	17%	1%
Southwest Airlines	18%	17%	1%
Delta Air Lines	17%	18%	1%
United Air Lines	15%	16%	1%
Alaska Airlines	6%	6%	0%
JetBlue Airways	5%	5%	0%
Spirit Air Lines	4%	5%	1%
SkyWest Airlines	3%	2%	1%
Frontier Airlines	3%	4%	1%
Other	12%	10%	2%
Total	100%	100%	
Average Absolute Change			1%

Source: Counterpoint Global and Bureau of Transportation Statistics.
Note: Based on U.S. domestic revenue passenger miles.

Exhibit 15 shows market share instability for the airline industry from 1974 to 2023 on a trailing 3- and 5-year basis. More stable market shares in recent years follow spikes of instability in the past, including one in the early 1980s after industry deregulation in 1978, and another in the first 15 years of the 2000s subsequent to the terrorist attacks of September 11, 2001.

While the five-year instability figure as of 2023 is low, we see a sharp rise in the three-year result as a consequence of the competitive strengths and weaknesses revealed after the COVID-19 pandemic cut travel demand. Further, during the mid-1990s and from 2014-2019, periods of low or declining instability, the industry earned relatively good economic profits.

Exhibit 15: Market Share Instability Analysis for the U.S. Airline Industry, 1974-2023



Source: Counterpoint Global and Bureau of Transportation Statistics.
Note: Based on U.S. domestic revenue passenger miles.

Market Share Concentration. Another relevant dynamic is the distribution of market shares. Concentration quantifies how much market share different companies control in an industry. The most popular measure of concentration is the Herfindahl-Hirschman Index (HHI). The HHI is the sum of the squares of the market shares of each firm, which allows it to reflect inequality. Another metric is the total market share held by a specific number of competitors. So an index of the top four firms (C4) would capture the combined market shares of those competitors. HHI and C4 give answers that are often, but not always, similar.

Why concentration goes up or down is vital. For example, concentration can rise because some companies operate more efficiently than their competitors. This allows them to supply an offering at a more attractive price or with better quality, leading to an increase in market share. For markets with strong network effects, when the value of a good or service increases as more people use it, some companies can gain an advantage in consumer demand. These advantages are commonly the result of skill and luck and can precede a winner-take-most outcome and a rise in concentration. In these cases, concentration increases even when competition is spirited.

Concentration can also rise because of industry consolidation, which introduces the possibility of higher prices without an accompanying improvement in the quality of the offerings. This can limit competition and introduce the prospect of antitrust scrutiny.

Concentration can also fall as the result of new entrants as well as specific antitrust actions or changes in regulation. For example, the government broke up AT&T in 1984 as an antitrust remedy and deregulated the airline industry in 1978.

Measuring concentration is inherently difficult because various techniques yield different answers and properly defining a market is hard. But the main issue is that common measures of concentration are not reliably linked to sustainable value creation or stock returns.[48] Market share provides a better link to profitability than does concentration.[49]

Industry Structure Classification. We find it useful to categorize industries at a high level before delving into the details of industry structure. While the analytical framework for all industries is common, categorization offers guidance on which topics you should emphasize. Strategy is always about finding sustainable value creation, but the issues faced by the executives in an emerging industry will be different than those for leaders in a declining industry. Exhibit 16 lists six industry structures and some of the strategic opportunities associated with each.

Exhibit 16: Industry Structure and Strategic Opportunities

Industry Structure	Strategic Opportunities
Emerging	Find product-market fit Consider timing of entry Acquire strategically valuable assets Increase willingness to pay Create switching costs
Growing	Emphasize market penetration Realize economies of scale Launch new products Expand geographically
Mature	Focus on process innovation Improve pricing Consolidate selectively Improve service quality
Declining	Increase investment to seek dominance Create and defend a niche Milk the investment Divest
Fragmented	Consolidate the industry (roll up): - Capture economies of scale - Upgrade local managerial skills - Improve incentives
Network-Based	Pursue winner-take-all strategies - Seed one side of two-sided market - Use partnerships to gain users - Focus on marketplace liquidity

Source: Counterpoint Global based on Jay B. Barney, Gaining and Sustaining Competitive Advantage-4th Ed *(London, UK: Pearson Education, 2013), 84; Michael E. Porter,* Competitive Strategy: Techniques for Analyzing Industries and Competitors *(New York: The Free Press, 1980); and Kathryn Rudie Harrigan,* Strategies for Declining Businesses *(Lexington, MA: Lexington Books, 1980).*

Industry Structure

Five Forces Analysis. Michael Porter developed the five-forces framework to provide a rigorous way to analyze the structure of an industry. There are a number of points to consider before starting this analysis:[50]

- The goal is not to determine whether an industry is attractive but rather to understand the drivers of profitability. Specifically, you can assess each force in the context of what it means for prices and costs. This analysis includes consideration of the income statement and the balance sheet.
- Strategy is not about a company beating its competitors. It is about figuring out how to earn a sustainable economic profit. Interactions with competitors are important, but so are relationships with customers, suppliers, and complementors.
- As with profit pool analysis, you want to separate what is structural from what is temporary or cyclical. Porter argues that underlying change is quite limited after an industry goes through its emerging stage.
- The structure by no means seals the fate of the companies in the industry, as we saw already. Sustainable value creation is the result of defending against and shaping competitive forces to establish an advantage.
- Much of what is put forth as analysis of industry structure is simply listing pluses and minuses for each of the forces. The objective is to go beyond the superficial to get a complete view of the drivers of profit.

Exhibit 17 shows the five forces: threat of new entrants, rivalry among existing firms, bargaining power of suppliers, bargaining power of buyers, and the threat of substitutes. While all of the forces are important, we believe that threat of new entrants and rivalry among existing firms deserve more extensive consideration than the others. In particular, we will examine barriers to entry, what impedes additional firms from seeking to compete, in some detail. But first we start with a brief look at the bargaining power of suppliers, the bargaining power of buyers, and the threat of substitutes.[51]

Exhibit 17: Five Forces That Shape Industry Structure

Threat of New Entrants *Risk:* New competitors erode market share and profitability. *Mitigant:* Establish strong barriers to entry.
Rivalry Among Existing Firms *Risk:* Intense competition reduces profitability. *Mitigant:* Avoid direct competition and promote legal cooperation.
Bargaining Power of Suppliers *Risk:* Strong suppliers increase input costs and squeeze margins. *Mitigant:* Diversify supplier base and consider vertical integration.
Bargaining Power of Buyers *Risk:* Strong buyers are demanding and limit profitability. *Mitigant:* Differentiate and promote customer loyalty.
Threat of Substitutes *Risk:* Substitutes offer products that limit industry profitability. *Mitigant:* Innovate, improve products, and create switching costs.

Source: Counterpoint Global based on Michael E. Porter, Competitive Strategy *(New York: Free Press, 1980), 4.*

- **Bargaining power of suppliers** is the degree of leverage a supplier has with its customers in areas such as price, quality, and service. An industry that cannot pass on price increases from its powerful suppliers is destined to be unattractive. Suppliers are well positioned if they are more concentrated than the industry they serve, if substitute products do not burden them, or if their offerings have high switching costs. They are also well situated if they represent a relatively small percentage of the total input costs of the buyers they sell to or if the product or service is critical to the buyer.

  Labor, fuel, and airplane ownership and maintenance are the three largest input costs for airlines. Michael Porter concludes that the bargaining power of suppliers is high because many airline employees are members of labor unions, airframe and aircraft engine manufacturers are oligopolies, and airports operate as local monopolies.[52]

- **Bargaining power of buyers** is the negotiating strength of the buyers of a product or service. It is a function of buyer concentration, switching costs, levels of information, substitute products, and the importance of the offering to the buyer. Large buyers that are informed have much more leverage over their suppliers than do diffused buyers that are uninformed.

  Porter's study of airlines shows that the bargaining power of buyers of airline travel is also high because the buyers are largely fragmented, have low switching costs (offset to some degree by frequent flier programs), have the means to compare fares easily, and are price sensitive as they perceive air travel to be a relatively standard offering.[53]

- **Threat of substitutes** addresses the existence of substitute products or services, as well as the likelihood that a potential customer will adopt a substitute product. A business faces a substitution threat if its prices are not competitive and if comparable products are available from other companies. Substitute products limit the prices that companies can charge and place a ceiling on potential returns.

  Porter's work shows this threat to be medium for airlines. Travel by train or car can substitute for short-haul flights, and business meetings via videoconferencing can replace some face-to-face gatherings.[54]

The **threat of new entrants** is the force that some scholars consider to be the most important. For example, Bruce Greenwald called it "the one force that dominates all the others."[55] High barriers to entry allow incumbents to create value while discouraging potential entrants with the prospect of unsatisfactory economic profits. Low barriers to entry suggest that challengers have limited obstacles in competing for a share of economic profits.

In our view, investors and executives often underappreciate the importance of historical entry and exit data for an industry. Those outcomes provide practical evidence of the existence of entry, and exit, barriers. For this reason, we recommend examining the history of entry and exit early in the process of analyzing an industry.

At a high level, barriers to entry are either structural or strategic.[56] Structural advantages come from scale benefits that lead to lower costs, access to scarce resources, or regulation. Strategic barriers are the result of actions incumbents take to fend off or discourage entrance. We explore these factors in more detail below.

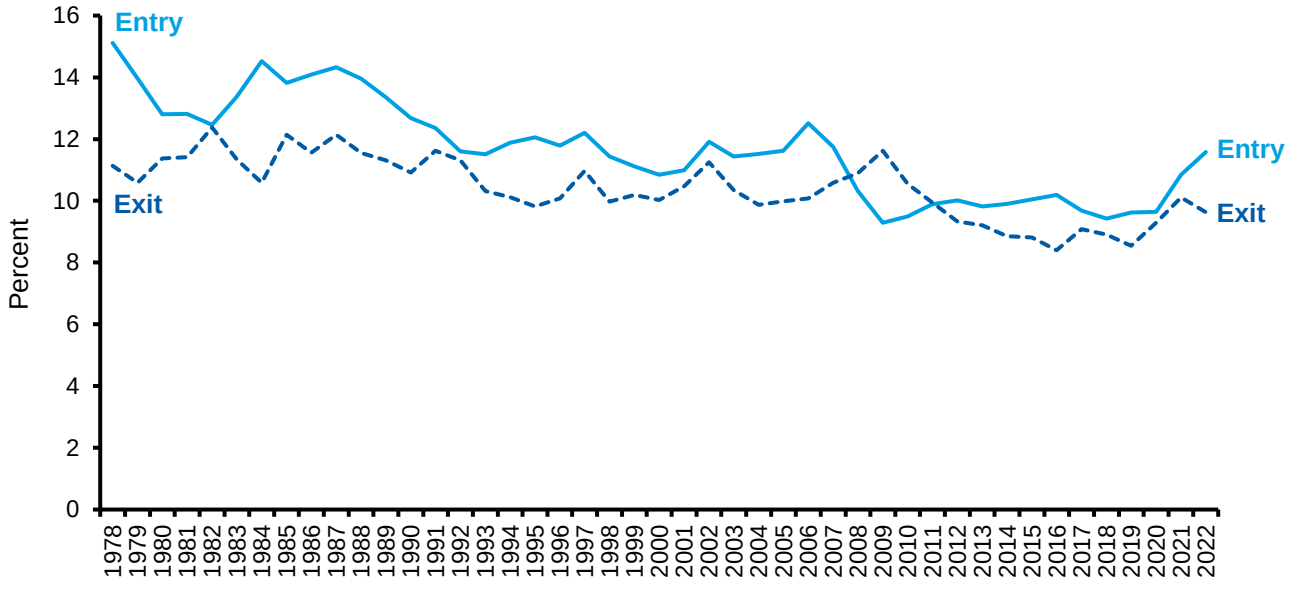
A review of the empirical research on entry and exit provides some stylized facts and a sense of how important it is in assessing sustainable value creation. One study looked at more than 250,000 U.S. manufacturing firms from 1963 to 1982. This study is old but remains instructive.[57]

To get a sense of the findings from this research, imagine an industry in 2025 with 100 firms that each have sales of $1 million. If past patterns are predictive, we should expect that:

- **Entry and exit will be common.** Thirty to 45 firms will enter the industry in the next 5 years and will collectively end up with sales of $15-$20 million. Just under one-half of the entrants will be diversified firms seeking to extend into new segments and a little over one-half will be new. Over that period, 30 to 40 companies with combined revenues of $15-$20 million will exit. That translates into 30-45 percent turnover in industry participants affecting 15-20 percent of volume in the industry.
- **Companies that enter and exit are generally smaller than the average existing firm.** New entrants are on average about 30 percent of the size of existing firms. Firms that diversify into an industry are about the same size as the companies already there. Firms that exit by 2030 will be about one-third as large as the firms that remain.
- **There is a lot of variance in entry and exit rates by industry.** Entry rates are higher in profitable and growing industries. Exit rates are higher in industries that are mature or in decline.
- **Survival rates over ten years are low.** On average, roughly 60 percent of the new entrants in a 5-year period have exited within the next 5 years. Nearly 80 percent of those firms, on average, exit within 10 years.

The data in the study were through the early 1980s. Exhibit 18 shows the rate of entry and exit for U.S. establishments across all industries from 1978 to 2022. Establishments are a single physical location where business is conducted. Most firms, especially young ones, have one establishment. Larger firms typically own multiple establishments. Not all exits are failures. Some are the sale of a viable business and others are closures of successful companies.[58]

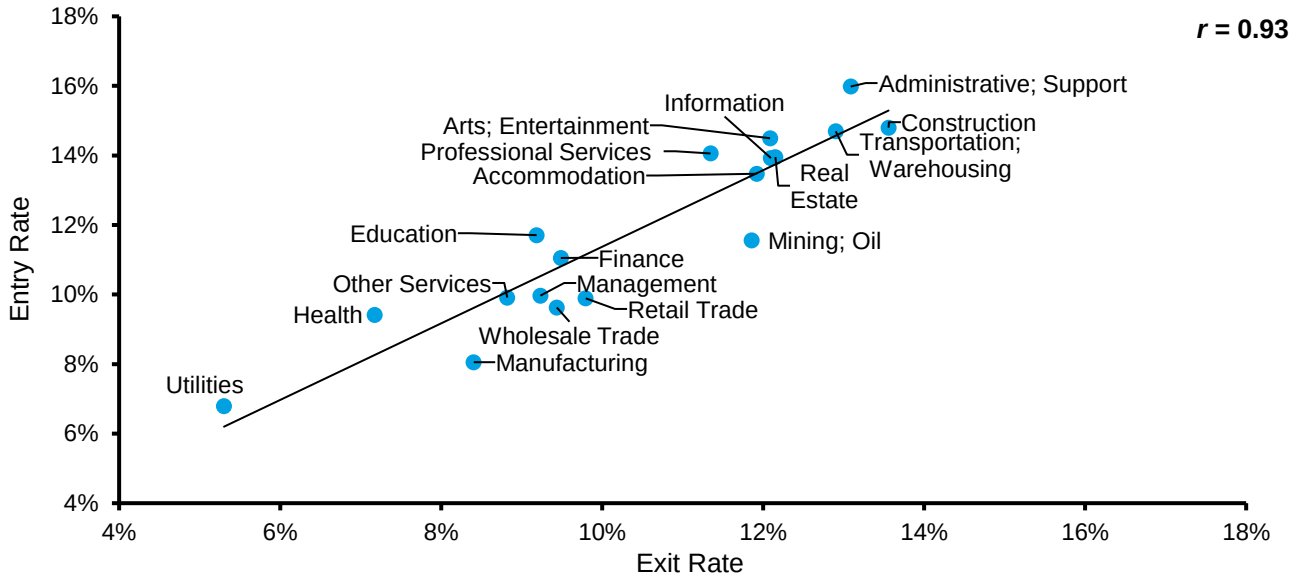
Exhibit 18: Establishment Entry and Exit Rates, 1978-2022 (U.S.)



Source: Counterpoint Global and U.S. Census Bureau—Business Dynamics Statistics.

Exhibit 19 shows the entry and exit rates for 18 sectors based on Standard Industrial Classification (SIC) codes. Some sectors, such as construction, have high entry and exit rates while others, including utilities, have very low rates. Michael Porter argues that industry structure tends to be sticky once it passes the emergence stage, which suggests that understanding entry and exit rates is relevant in the study of an industry.[59]

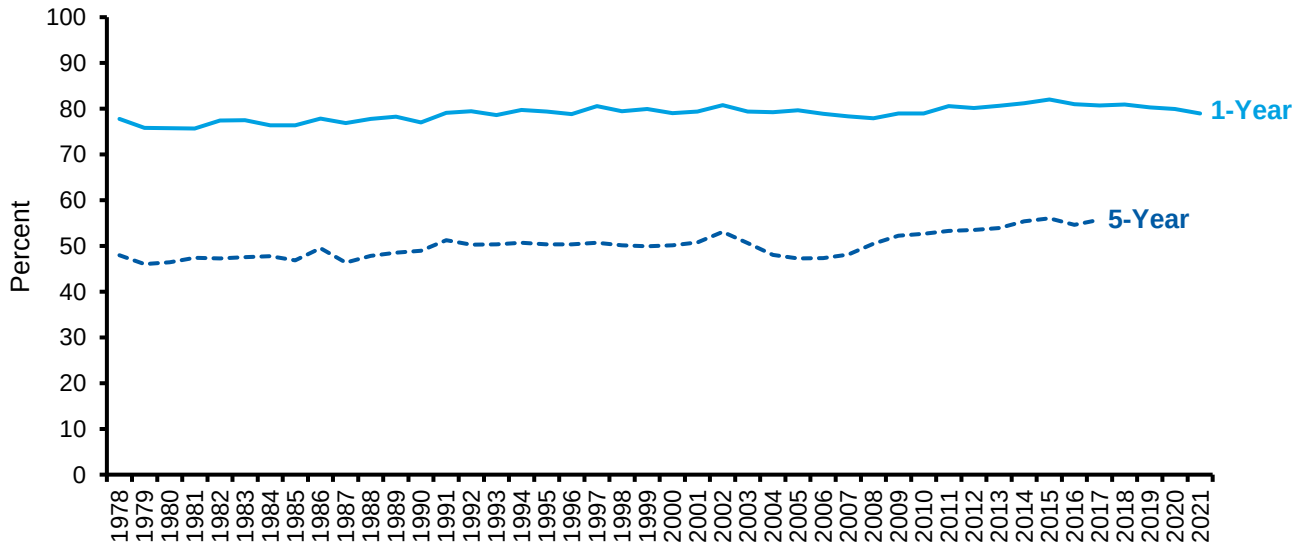
Exhibit 19: Entry and Exit Rates by Sector, Annual Averages, 1978-2022 (U.S.)



Source: Counterpoint Global and U.S. Census Bureau—Business Dynamics Statistics.
Note: Entry and exit rates are averages for the years 1978-2022 (most recent year available).

The entry and exit data allow us to infer survival rates. Exhibit 20 shows the survival rates, over one and five years, for U.S. establishments from 1978 to 2022. Eighty percent of establishments survive one year, on average, and about 50 percent stay alive for 5 years. Corporate longevity for public companies in the U.S., measured as the time from listing to delisting on an exchange, follows an exponential function and has been rising in the 21st century after having fallen for decades in the second half of the 20th century.[60]

Exhibit 20: 1- and 5-Year Survival Rates for U.S. Establishments by Birth Year, 1978-2022



Source: Counterpoint Global and U.S. Census Bureau—Business Dynamics Statistics.

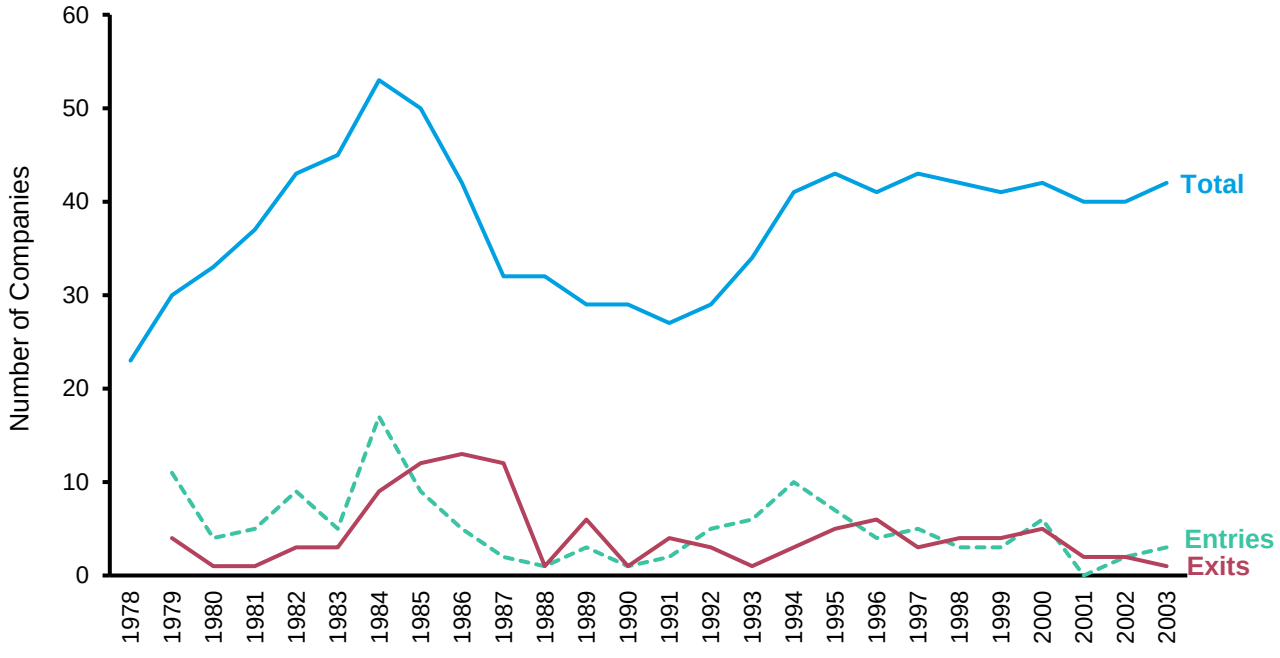
The pattern of entry and exit over time tends to be similar for all industries. Early in the life of the industry, the market has yet to pick the products it wants. This is an invitation for new firms to enter the industry and innovate. Few companies exit. After the market picks the products it wants, demand stabilizes and entry and exit are in rough balance. In the latter stages of industry life, demand ebbs and exits tend to outpace entrants. Appendix B provides more detail on the pattern of industry development.[61]

Barriers to entry determine how difficult it is for a new competitor to enter an industry. These barriers might include the level of capital required, the strength of established brands and customer loyalty, access to distribution channels, economies of scale, the costs of switching from one supplier to another, and government regulations.

Michael Porter's analysis of the airline industry concludes that the threat of new entrants is high, reflecting limited advantages for incumbents, low switching costs, and easy access to distribution channels. That said, barriers to entry include sizeable capital requirements to acquire aircraft, regulatory costs, and limited access to airport gates and takeoff and landing slots.[62]

Exhibit 21 shows entry and exit in the U.S. airline industry from 1978 to 2003. The industry was deregulated in 1978, which led to a rise in new entrants in the next half-dozen years. Most of these upstarts failed. Since 2003, the number of U.S. airlines has declined 15 to 20 percent, primarily due to consolidation, and market concentration has risen. From 2005 to 2013, five relatively large airlines—Northwest, Continental, US Airways, America West, and AirTran—were acquired or merged. New entrants such as Avelo Airlines, Breeze Airways, and GoJet Airlines partially offset those exits.

Exhibit 21: U.S. Airline Industry Entry and Exit, 1978-2003

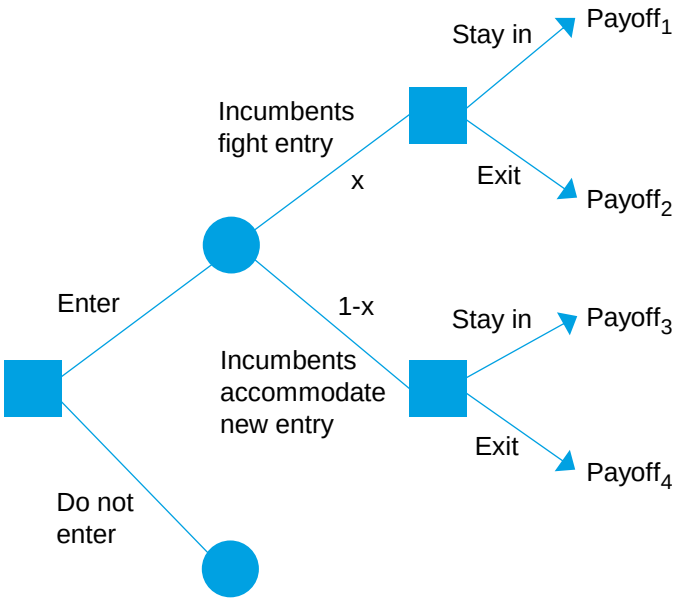


Source: Counterpoint Global and William A. Jordan, "Airline Entry Following U.S. Deregulation: The Definitive List Of Startup Passenger Airlines, 1979-2003," 46th Annual Transportation Research Forum*, March 6-8, 2005.*

We now put ourselves in the position of a potential new entrant considering whether to compete in an industry. The firm should examine different scenarios and enter only if the expected payoff is positive (see exhibit 22).

The rate of entrance into value-creating industries is lower in the 2000s than it was in the last two decades of the 1900s.[63] This recent slowdown in entry notwithstanding, scholars find that challengers are overconfident, tend to neglect the high base rates of business failure (see exhibit 20), and are drawn to the ambiguity of the payoffs as a new competitor.[64]

Exhibit 22: A Decision Tree to Assess Entrance into an Industry

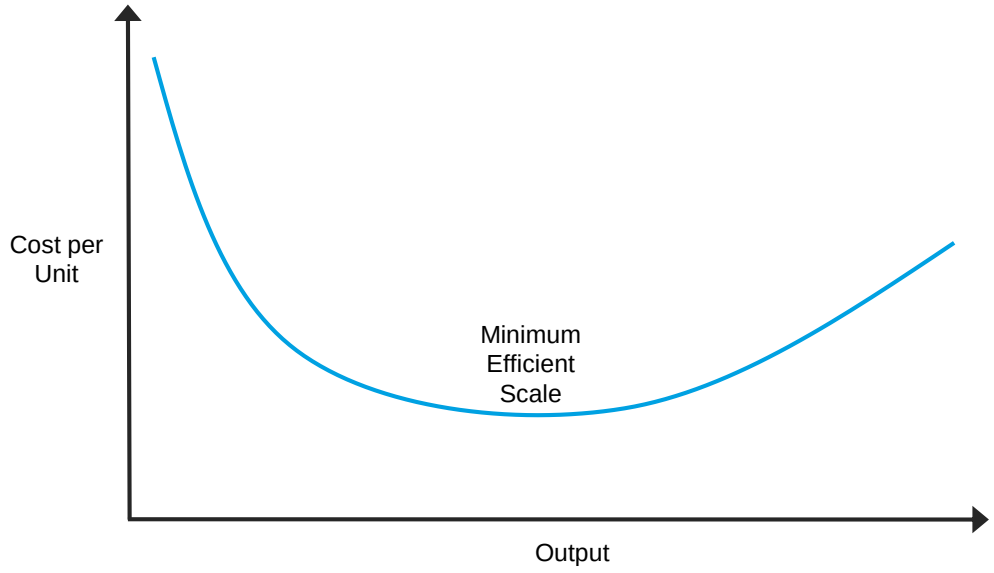


Source: Counterpoint Global based on Sharon M. Oster, Modern Competitive Analysis, 3rd Ed. *(Oxford: Oxford University Press, 1999), 52.*

Barriers That Protect Incumbents. Porter enumerates seven sources of barriers that protect incumbents: supply-side economies of scale, capital requirements, demand-side benefits of scale, customer switching costs, incumbency advantages independent of size, unequal access to distribution channels, and restrictive government policy.[65] Firms derive their specific advantages from these barriers.

Economies of scale reflect the relationship between a company's sales and fixed costs, which are costs that do not change with output. Adam Smith described this in *The Wealth of Nations*, published in 1776, using the example of a pin factory.[66] The cost per unit goes down as output goes up for most industries (exhibit 23) up to a point. These are called "supply-side" economies because they depend on a company's ability to supply output.[67]

Exhibit 23: Minimum Efficient Scale



Source: Counterpoint Global.

Indivisibility, when the factors of production cannot be divided into smaller units without losing functionality, is an important determinant of fixed costs.[68] For example, a bakery that wants to service a region must have a bakery, trucks to deliver the goods to stores, and drivers. These parts are indivisible, and the bakery must absorb their fixed costs no matter the level of demand for its products. As important, fixed costs will not budge much if demand rises and the trucks go from half to completely full.

Minimum efficient scale (MES) is the level of output at which a firm reaches its long-term average cost.[69] Since most entrants are smaller than incumbents, MES indicates how much market share an entrant must gain to achieve a cost structure that can lead to a satisfactory economic profit.

You can combine MES with two other concepts to derive important insights into industry structure.[70] First is the link between MES and the total addressable market (TAM), the sales a company could attain if it had 100 percent share of a market it could serve while creating value.[71] If you have a sense of the market share necessary to achieve MES and the TAM, you can estimate how many companies can compete while creating value.

Bear in mind that scale is always relative to competitors. Big firms in a large industry may have no advantage when compared to one another. For example, 6 auto producers had a market share between roughly 10 and 15 percent in the U.S. in 2023, and each of those companies had global sales in excess of $100 billion. Conversely, a little firm in a small industry may have an advantage. MES and TAM can change over time as the result of shifts in consumer preferences and advances in technology.

The second link is between MES and market share changes. Market share instability analysis provides a measure of how much market share moves around in an industry. Potential entrants face a daunting task if the market share to achieve MES is high and market shares are stable.

Capital requirements quantify how much capital an entrant has to commit up front and include pre-production costs as well as the drain of prospective losses. When the minimum efficient scale of production is high relative to the size of the total market, a potential entrant is looking at the daunting prospect of pricing its product below its average cost for some time to get to scale.

Large capital requirements are generally associated with tangible assets such as factories. For example, in 2024, Taiwan Semiconductor Manufacturing Company announced that it is committing $65 billion to build three new semiconductor fabrication plants in the U.S.[72] The unit cost for the first chip the company will produce will be extremely high but the cost per unit will decline rapidly as the fabs reach production at scale.

Today, companies invest roughly twice as much in intangible assets as tangible assets.[73] The academic community has focused a great deal of attention on "superstar" firms, companies that have achieved better ROICs, growth, and productivity than their peers.[74] Intangible investments have played an important role in the rise of these superstars.

James Bessen, an economist, suggests that three developments have allowed superstar firms to distance themselves from their competitors. First, these companies invest heavily in proprietary software, a form of intangible asset. He shows that spending for this software has grown at a much faster rate than that for research and development (R&D), advertising, and acquisitions.[75] Spending on proprietary software is in excess of $300 billion in the U.S.[76]

Second, he contends that this software has allowed superstar firms to not only benefit from economies of scale but also to offer the market differentiated goods and services. Companies have traditionally been encouraged to distinguish themselves from their competitors through either lower costs or distinctive offerings. Proprietary software enables large firms to benefit from scale and complexity in a way that was impossible before.[77]

Finally, this technology diffuses at a slower rate today than in the past because the software is complex and customized, and superstar firms have little incentive to share what they have built. This has made it hard for competitors to narrow the productivity gap and increases the minimum efficient scale and capital requirements for potential challengers.[78]

Demand-side benefits of scale, commonly linked to network effects, create another important barrier to entry. A network effect exists when the value of a good or service grows as more members use that good or service. The ridesharing market, which connects riders and drivers, is a clear example. The utility of Uber, a ridesharing company, increases for riders when there are lots of drivers and for drivers when there are lots of riders.

This is called a "demand-side" benefit because the more demand (and users) there is the more valuable the service becomes. Positive feedback often allows one network to prevail. For example, Uber had about 75 percent of the rideshare market in the U.S. in the first quarter of 2024.[79] A network's strength and durability are a function of its size, structure, and connectivity.[80] We will address network effects again when we discuss how firms create value.

Customer switching costs are what buyers or users have to endure to move from one supplier to another. These costs can be direct (e.g., cancellation or initiation fees), indirect (time and effort to find a new supplier), or psychological (inconvenience and uncertainty). Many consumers do not want to leave a dominant network because of high switching costs. This lock-in makes it difficult for a challenger to gain customers.

Asset specificity creates another form of switching cost. Indeed, economists have noted that how specific the assets are to the business may be more important than the sum invested. Assets are specific if they are hard to deploy elsewhere. Companies usually invest in specific assets to satisfy particular customer needs.

Asset specificity takes a number of forms, including site specificity (e.g., a company locates its assets close to one another to capture efficiencies), physical specificity (a firm's investments are meant for a particular

transaction), dedicated assets (an investment committed solely to the needs of a specific customer), and human specificity (employee skills, knowledge, or know-how that are hard to translate to other organizations).[81]

Highly specific assets create switching costs because the investments are tailored to a limited type of transaction or relationship with a buyer. This dependence creates a cost for the customer to switch to another supplier.

Incumbency advantages independent of size can take a number of forms, including precommitment contracts, licenses and patents, quasi-contracts, and learning curves.

Companies commonly safeguard future business through long-term contracts.[82] These precommitment contracts can be efficient in reducing search costs for both the supplier and the customer. They also make entry more difficult.

Precommitment contracts take different forms. One is if an incumbent secures access to an essential input. For instance, in March 2024, Amazon purchased a datacenter from Talen Energy that included a long-term contract for energy from Talen's nearby nuclear power plant.[83] There are concerns that energy demands from datacenters, especially for clean energy, will outstrip what the current the U.S. infrastructure can supply.[84]

Precommitment also includes quasi-contracts, such as a pledge to always provide a good or service at the lowest cost. For example, Walmart, a multinational retailer, vows to have "Every Day Low Prices" on a wide assortment of goods in its U.S stores. Such a pledge reduces the potential payoff for new entrants because they seldom have the scale to match incumbents.

Incumbents also have the advantage of learning by doing. The idea is that organizations improve at an activity the more they do it. Theodore Wright, an engineer, formalized this into what is now called Wright's Law, which says that the labor hours per unit decline 20 percent for each doubling of cumulative output.[85] The cost of production for solar panels and lithium-ion batteries for electric vehicles have both followed Wright's Law closely.

Unequal access to distribution channels is relevant when an entrant has to have distribution for its good or service. For example, retailers seek to allocate their shelf space to optimize product turnover and profits. As a result, entrants commonly have to pay the retailer a fee to provide their offering with a slot on the shelf.

Restrictive government policy can take the form of licenses and patents. Many industries, including healthcare, transportation, and broadcasting, require a license or certification from the government to do business. These are a cost that impede entry.

Patents provide the owner the legal right to keep competitors from producing and selling an invention for some period. Pharmaceutical patents in the U.S., for instance, commonly last for 20 years from the date of application. The purpose of a patent is to provide an appropriate return on innovation, which can involve large upfront costs.

Regulatory capture occurs when government entities that are supposed to serve the broad population adopt policies that help certain companies or industries. For example, Bill Gurley, a venture capitalist, describes how incumbent telecommunications companies used lobbyists to draft and promote legislation to quash the aspirations of a company in which he had invested. The company created a mesh that provided Wi-Fi to cities. The product was popular among mayors and the general public but threatened the local telecom providers. Gurley concludes that "regulation is the friend of the incumbent."[86]

Potential entrants into an industry must consider these barriers in assessing the potential payoffs. They should also include the costs and barriers to exit. High exit costs are also a deterrent to entry. High costs come from

sizeable investments in specific assets. Notably, many tangible assets are less specific than are intangible assets.[87] Standardization explains much of this difference. Tangible assets are often standard and intangible assets are generally unique. For companies that failed during the dot-com bust, the chairs the engineers sat in may have been worth more than the code they wrote.

Naturally, incumbents also seek to deter entry preemptively. Strategies include cutting the cost of existing products, adding capacity, signaling an aggressive response, and pursuing legal or regulatory strategies.[88] The financial position of incumbents is also relevant. Financially strong firms are in the position to take a short-term hit to profits to avoid having a new competitor for the long term.

The specific ways that companies achieve sustainable value creation reflect directly on what barriers to entry they enjoy. Below, we explicitly link the various forms of barriers to entry to specific ways that firms can add value.

Rivalry among existing firms, the last of the forces, measures how aggressively firms compete with one another in an industry. The weapons of rivalry include pricing, service offerings, capacity changes, new products, advertising, and promotional spending.

Most industries have a tension between coordinating, and hence maximizing industry profits, and cheating, where one or more companies may benefit at the expense of competitors. Examples of coordination are synchronized price changes, done through signaling rather than discussion, and restrained changes in industry capacity. Cases of cheating are price cuts, either directly or through promotions, and large unilateral increases in capacity. In all cases, companies must be aware that their actions trigger reactions by their competitors.

Rivalry tends to be more intense when there are lots of competitors and they are of equal size. The reason is similar to why the diffusion of responsibility leads to less accountability in a group. Each company perceives itself as relatively insignificant and therefore does not worry about the reactions of others as it lowers prices or increases its capacity. The likelihood of coordination rises when the industry has a few large companies that can monitor and signal to one another.[89]

Rivalry is also intense when competing companies seek to become the network of choice in a business with strong network effects. This competition can be especially heated if the firms seek to subsidize one side of the market. An example is rival rideshare companies issuing large discounts to passengers in order to attract drivers and reduce wait times.[90] These subsidies can be very expensive and especially so when venture capital is ample.[91]

Industry growth also influences rivalry. Economic profit tends to increase over time for a profitable industry that emerges, which means that competitors can do well if they sustain their share of the pie. Economic profit stagnates or falls when an industry has slow growth, no growth, or is in decline. That means the setup has a zero sum because one firm’s gain has to be another firm’s loss.

Demand variability also affects rivalry. It is hard for companies to coordinate with each other in industries that have cyclical demand, even if overall demand is rising, because it is a challenge for companies to coordinate internally. That internal focus shrinks the possibility of external coordination.

Cyclical industries are particularly challenging because all competitors are tempted to add capacity, or raise prices, near the peak. A company that adds capacity stands to earn incremental economic profit if others do not. But capacity additions near the peak of the market make the overcapacity at the trough more painful. This is

especially important for industries with high fixed costs and substantial operating leverage. Operating leverage measures the change in profit as a function of the change in sales.

Cooperation tends to emerge when companies frequently interact with one another and therefore learn how to send and receive signals. One difficulty with cyclical industries is that meaningful decisions to add capacity or not are relatively infrequent, and any absence of institutional memory can lead to a decision that ultimately harms industry profitability.

The strategies and tactics that companies pursue also reflect the heterogeneity of ownership structures and resulting goals. Companies can be public, privately held, or owned by a venture capital or buyout firm. These owners may differ in their time horizons, financial sophistication, and incentive structures. Those differences can affect how companies compete.[92]

High barriers to exit also have an impact on rivalry. Competitors are more likely to stick it out and try to compete if it is costly to leave an industry. Here again, asset specificity is relevant. Assets that companies cannot deploy elsewhere create a barrier to exit.

Disruption and Dis-Integration

Disruptive innovation. Much of strategy research focuses on the attractiveness of industry structure or how companies achieve and sustain a competitive advantage. But a lot of companies that were highly successful and widely admired, including Sears, Eastman Kodak, and Nokia, subsequently failed. Clayton Christensen, a professor of management, wanted to understand how incumbents with sizable resources were unsuccessful in fending off upstarts with relatively modest resources. His work on disruptive innovation seeks to explain why the Goliaths sometimes lose to the Davids.[93]

The theory of disruptive innovation is not without controversy, especially in the academic community.[94] But practitioners have embraced the ideas, even if they have overapplied and misused the term "disruptive." These points noted, we find the theory useful when applied thoughtfully.

Christensen distinguishes between "sustaining" and "disruptive" innovations. A sustaining innovation improves a product and can be incremental, discontinuous, or even radical. The essential point is that these innovations appear in a company's current "value network." Christensen defines a value network as the "context within which a firm identifies and responds to customers' needs, solves problems, procures input, reacts to competitors, and strives for profit."[95] You can think of a value network as a business model.[96]

A disruptive innovation serves the same market but uses a different business model. Often, but not always, disruptive innovations are simpler and cheaper than what mainstream customers demand, so the products or services appeal initially to only a small percentage of users. Christensen conceded that he made a mistake in originally calling this "disruptive technology." He later modified the name to "disruptive innovation" because "it is a business model problem, not a technology problem." Disruptive innovation occurs when "the disruptive business model in which the technology is deployed paralyzes the incumbent leader."[97]

Hamilton Helmer, a business strategist, enumerates seven powers, including one he calls "counter-positioning." We consider disruptive innovation and counter-positioning to be similar. Helmer says counter-positioning is relevant when: "A newcomer adopts a new, superior business model which the incumbent does not mimic due to the anticipated damage to their existing business."[98]

The concept of a disruptive innovation is relative. What may be disruptive to one business may be sustaining to another. For instance, the emergence of the internet was a sustaining innovation for retailers that relied on mail order catalogs. Their basic business model did not change. But the internet was disruptive for retailers that had physical stores.

In 2024, the relative impact of innovation is at the heart of the discussion about generative artificial intelligence (GenAI), a technology that generates text, images, or videos via prompts. Leading technology companies and some startups are each spending tens of billions of dollars to develop their own GenAI models.

Strategists are already arguing that GenAI will have a significant impact on the business of these companies but "won't be a source of competitive advantage for any one of them." They note, however, that GenAI may amplify existing competitive advantages.[99]

In general, we find that disruptors have lower profit margins, but higher invested capital turnover, than the incumbents. We saw that ROIC equals net operating profit after taxes (NOPAT) divided by invested capital. Profit margins are measured as NOPAT/sales and invested capital turnover equals sales/invested capital.

Disruptors can earn attractive returns if the product of the lower margins and higher invested capital turnover deliver attractive ROICs.

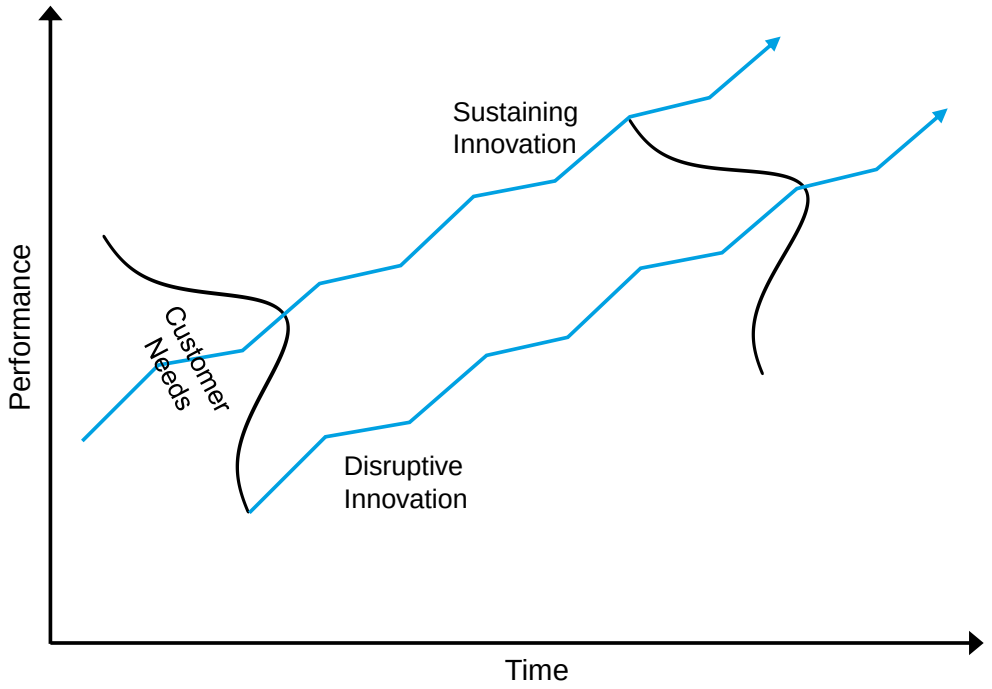
Christensen makes a distinction between low-end disruption and new-market disruption. Low-end disruptors enter a market that exists already. Southwest Airlines launched in the U.S. airline industry in the late 1960s with a small number of cheap flights from smaller airports and no frills. It did not seek to compete with the legacy carriers and in fact was a substitute for bus transportation.

New-market disruptors compete initially against "non-consumption."[100] They create a market for consumers who lack the funds to buy, or the skills to use, the incumbent's product or service. The personal computer (PC) is a classic example. Before the launch of PCs in the mid-1970s, computers were too big, expensive, and complicated for personal use.

Exhibit 24 shows the model of disruptive innovation. The y-axis is consumer needs for product performance and the x-axis is time. The two bell-shaped distributions represent customer expectations for product performance, which tend to rise over time. The distributions reflect that there are customers at the low end, in the middle, and at the high end for any good or service.[101] Customers differ in their expectations for the performance of the offering as well as their willingness to pay.

The jagged lines that edge upward reflect the improvements delivered by the sustaining innovation (top line) and the disruptive innovation (bottom line). Incumbents are highly motivated to compete when the entrant's offering is within the mainstream of customer needs. Incumbents almost always succeed in fending off these entrants because the established firms typically have more resources than do the challengers.

Exhibit 24: Clayton Christensen's Model of Disruptive Innovation



Source: Counterpoint Global based on Clayton M. Christensen, The Innovator's Dilemma: When New Technologies Cause Great Firms to Fail *(Boston, MA: Harvard Business School Press, 1997), xvi.*

Note that disruptive innovations are attractive initially to only those customers who are likely to be at the low end of the market. Those consumers are satisfied with product attributes that are relatively simple and are unwilling to pay much. Disruptive innovations are unappealing to mainstream consumers but good enough for part of the population.

There are two main features of this model. The first is that the rate of improvement as the result of innovation, whether sustaining or disruptive, is in excess of the rate the consumer demands. This means incumbents following the trajectory of sustaining innovation will eventually have a product or service that gives the consumer more than they need and costs more than they are willing to pay.

When this happens, Christensen says the incumbents have "overshot" the market. You know a market has overshot when customers refuse to pay for new features and fail to use many of the features that are already available. Incremental ROICs for companies that compete in overshot markets migrate toward the cost of capital.

Christensen also suggests that the basis of competition shifts from being focused on superior functionality before the market is overshot to speed, customization, and convenience after the market is overshot. PCs overshot in the late 1990s to early 2000s. Producers that focused on performance first lost ground to those with more efficient delivery models and then to substitutes such as laptops, tablets, and even smartphones.

This trait of steady improvement in product performance also means that disruptive innovations migrate from serving consumers at the low end to those in the mainstream. This is relevant because incumbents cannot change their business models and are therefore positioned poorly to address competitive threats from the low end of the market.

The case of mini-mills and integrated mills in the steel industry was one of Christensen's favorite examples. Mini-mills are much smaller and less capital intensive than integrated mills. The reason is that they melt scrap steel rather than produce steel in blast furnaces as the integrated mills do. But there is a trade-off: integrated mills historically had an advantage in producing steel of high quality because they controlled the complete process.

The simpler and cheaper mini-mills started disrupting the industry in the 1970s. Initially, their inferior quality relegated them to producing "rebar," the reinforcing bar in concrete. This product was cheap, had low profit margins, and added the least value for the integrated mills. The integrated mills fled the market, and their profit margins increased. You might imagine hearing the financial analysts cheering the margin expansion as the result of the improved sales mix. As Christensen would say, "It felt good to get in and good to get out."

But it did not feel good for long. The price of rebar dropped once the integrated mills exited the market. As a result, the mini-mills looked upmarket. The performance of the disruptors improved, as the theory predicts, allowing them to compete successfully in markets that had higher margins and added more value. This continued until the mini-mills shouldered into the high end of the market and crimped the profitability of the integrated mills.

The second feature of this model is that ignoring disruptive innovations seems sensible from the point of view of the incumbents. With an established and profitable business model, these companies will have little appetite to go into businesses with lower margins than the current ones and to operate in insignificant and unknown segments of the market. Further, an incumbent's most profitable customers do not have any interest in products at the low end. Firms that do what the textbooks say they should—listen to their customers and practice financial discipline—will have no interest in disruptive innovations.

Exhibit 25 is a recapitulation of the categories of innovation and provides quick insights into the customer, the nature of the technology, the business model, and the likely response of incumbents. The response of the established firms is of particular significance. Incumbents are nearly always willing and able to defend against entrants with a new offering that is a sustaining innovation. Christensen found that the leaders at the beginning of a cycle of sustaining innovation "almost invariably" remained on top.[102]

Incumbents are motivated to flee when faced with low-end disruption, as we saw in the case of the integrated steel mills. What is important is that ceding the low end of the market leads to higher profits margins for the incumbents in the short term. But it also allows challengers to build capabilities and resources that allow them to enter into the mainstream market and undercut incumbents in the long run.

Established firms are generally satisfied to ignore new-market disruptions. To see why, we return to the computer industry. Mainframe computers were launched in the 1950s and were useful only to governments and large companies because of their size, sophistication, and cost. Minicomputers were launched in the mid-1960s. Cheaper than mainframes, they increased the size of the market. By the late 1970s, the leading mini manufacturers had healthy pretax profit margins of 20 percent.[103] Those incumbents largely ignored the PC industry as it emerged because they were doing well without it.

Exhibit 25: Disruptive Innovation Categories and Characteristics

	Sustaining Innovation	Low-End Disruption	New-Market Disruption
Customers	Undershot customer	Overshot customer at low end of existing market	Non-consumer or non-producer
Technology (Product/Service/ Process)	Improvement along primary basis of competition	Good enough performance at lower prices	Simpler, customizable; allows people to "do it themselves"
Business Model	Extension of winning business model	Attractive returns at lower prices	Completely new model, different from core business
Incumbent Response	Motivated to respond	Motivated to flee	Motivated to ignore

Source: Counterpoint Global based on Clayton M. Christensen and Michael E. Raynor, The Innovator's Solution: Creating and Sustaining Successful Growth When New Technologies Cause Great Firms to Fail *(Boston, MA: Harvard Business School Publishing, 2003), 51.*

The reluctance to adopt the theory of disruptive innovation comes in part because of some of its failed predictions, such as considering the iPhone a sustaining innovation, and the fact that Christensen selected many of his case studies after the facts were established. Thomas Thurston, a venture capitalist and data scientist, used the theory to predict success or failure for thousands of innovations. Many businesses fail, as we saw, so the goal was to predict better than what the base rates show. Thurston suggests the models are better than base rates and more than twice as accurate as the predictions of the venture capital industry.[104]

Industry dis-integration. There is a rich and deep intellectual body of work on the structure of industries and companies. This spans from the father of modern economics, Adam Smith, to a slew of economists who won the Nobel Prize in Economic Sciences, including George Stigler, Ronald Coase, and Oliver Williamson.[105] Some of the important ideas include the link between specialization and market size, the importance of transaction costs, and the challenges of coordination.

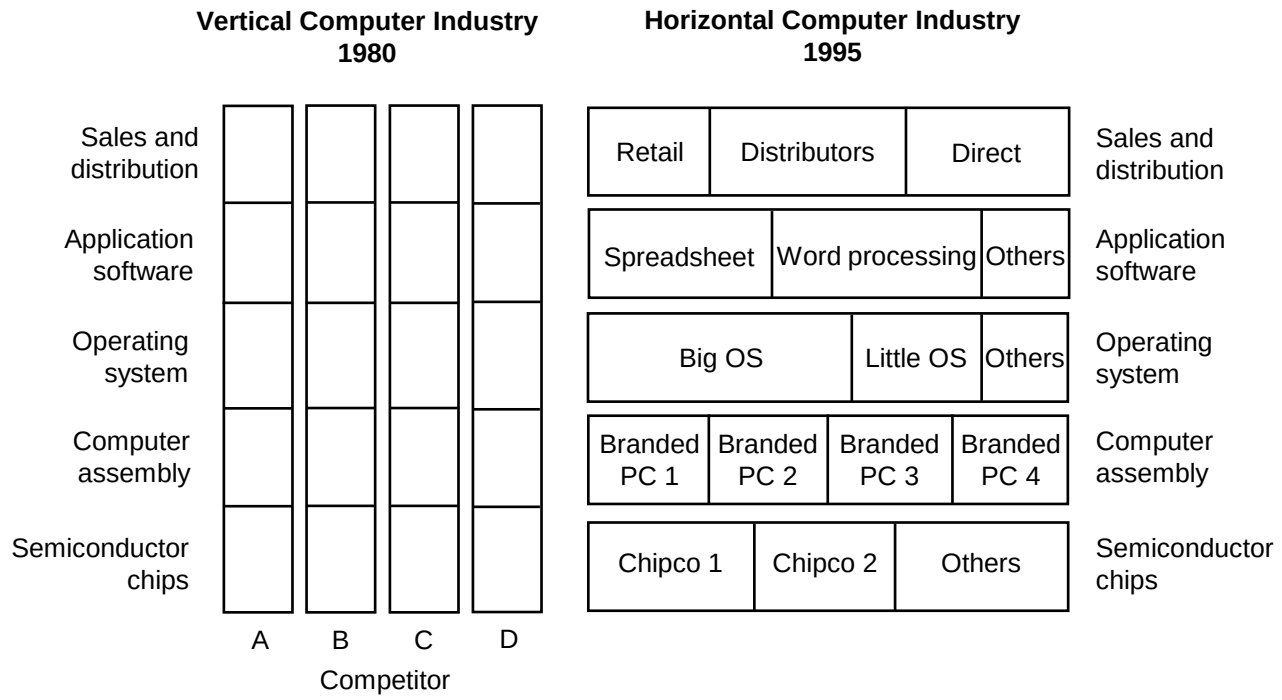
Building on this work, Christensen collaborated with colleagues to develop a theory that explains when industries are likely to migrate from being vertically to horizontally integrated.[106] A company is vertically integrated if it controls most or all of the activities in its value chain, from raw materials to dealing with the customer. A value chain is "the sequence of activities a company performs to design, produce, sell, deliver, and support its products."[107] A company is horizontally integrated when it transacts with other firms for some activities within the value chain. The theory is useful in assessing potential changes in an industry and for weighing the benefits of outsourcing.

In mergers and acquisitions (M&A), a vertical deal is when one company acquires another that does a different activity on the value chain. A transaction that seeks vertical integration can be "upstream" (an activity closer to the raw material input) or "downstream" (closer to the customer). A horizontal deal combines companies that do the same activity on the value chain, often with the goal of increasing market share and scale.

Vertical integration can be a substantial advantage as industries or products start out because coordination costs are high. Companies have to control all aspects of the supply chain so that the product will literally work. Exhibit 26 shows the evolution of the computer industry. In the early 1980s, the largest computer companies were vertically integrated because the engineers at the firms had to make sure their complex products did what they were supposed to do.

As an industry grows and matures, various components within the supply chain become modules, a standardized or independent part of a more complex product. The process of modularization allows an industry to flip from vertical to horizontal. So instead of each company doing each step within the value chain, new companies pop up to specialize in specific activities. This occurred in the computer industry by the mid-1990s. Modularization is a difficult engineering task, but it creates standardization and lower costs when done successfully.[108]

Exhibit 26: Dis-Integration of the Computer Industry



Source: Counterpoint Global based on Andrew S. Grove, Only the Paranoid Survive: How to Exploit the Crisis Points That Challenge Every Company *(New York: Doubleday, 1999), 44.*

The past and present of the automobile industry is another instructive case.[109] In its early days, vertical integration was common in the U.S. auto industry. For example, Ford Motor Company opened its River Rouge facility in the late 1920s. River Rouge included "ore docks, steel furnaces, coke ovens, rolling mills, glass furnaces, plate-glass rollers, a tire-making plant, stamping plant, engine casting plant, frame and assembly plant, transmission plant, radiator plant, tool and die plant, and, at one time, even a paper mill."[110]

Over time, Ford and its competitors came to rely on suppliers and narrowed their activities on the value chain. Today, Ford has about 1,400 Tier 1 suppliers (companies that supply Ford with a final product) and is primarily a vehicle assembler. The industry has become heavily horizontally integrated. This issue came to the surface when supply chain disruptions as the result of COVID-19, including with semiconductor chips, curtailed production.

Tesla is a leading manufacturer of electric vehicles (EVs), a small but rapidly growing part of the global automobile market. Elon Musk, the company's CEO, has said that Tesla is "absurdly vertically integrated compared to other auto companies."[111] This has been an advantage because it is difficult to make the vehicles work well due to high coordination costs.

Naturally, incumbent automobile manufacturers have seen Tesla's growth and want to compete in EVs as well. But they ran into trouble because they tried to pry the model of modularization into a product that was not ready for it. For instance, Jim Farley, the CEO of Ford, explained that to build EVs the company farmed out 150 modules to suppliers. Each supplier wrote unique software for their module with little coordination between them. To boot, Ford struggled to integrate the modules because the individual suppliers owned the intellectual property of the software.

The rationale for modularization was that Ford could pit suppliers against one another to save $500 per vehicle.[112] It has been reported that Ford lost more than $40,000 per electric vehicle in the first half of 2024.[113] Other legacy manufacturers have reported similar struggles.[114]

As a result, Ford and other incumbent manufacturers are seeking to go back to vertical integration to reduce costs and improve the quality of their EVs. Software, a crucial part of EVs from battery management to the user interface, is a particular point of attention. Software can be seamlessly integrated only through vertical integration at this stage in the industry's development.

We can take a step back and see where we are in the process of measuring the moat. The process of industry analysis includes getting the lay of the land, assessing the five forces that shape industry structure, and considering the risks and opportunities of disruptive innovation and dis-integration. The goal of industry analysis is to understand the determinants of industry profitability, how they have changed over time, and how they might evolve in the future. ROIC is the appropriate measure of profitability.

We now turn to the analysis of specific firms. We want to know if they are doing anything differently than their competitors to set them apart and allow them to earn an ROIC above the average. The goal of this analysis is to understand if, how, and why individual companies have the prospects for sustainable value creation.

Firm-Specific Analysis

Anticipating sustainable value creation for an individual firm requires understanding how exactly it creates shareholder value. This understanding requires assessing the strategies a firm pursues, its interaction with competitors, and how it deals with non-competitors.[115]

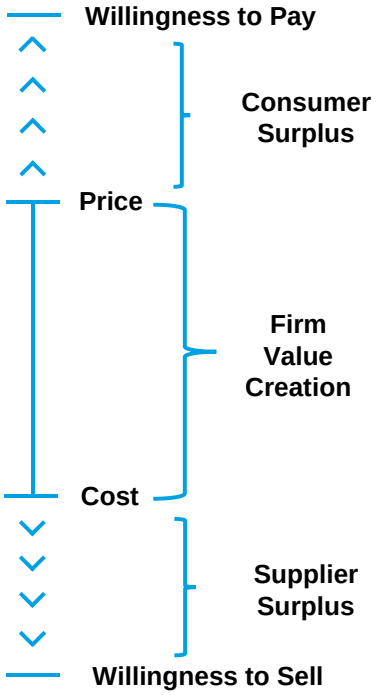
Value creation. Adam Brandenburger and Harborne Stuart, professors of strategy, provide a useful way to think about how a firm adds value as well as overall value creation.[116] Exhibit 27 summarizes the framework using a "value stick," an image that another strategy professor, Felix Oberholzer-Gee, popularized.

The exhibit is based on four essential concepts. The first is willingness to pay (WTP), which, as a reminder, is the price a consumer is willing to pay for a good or service at which they are indifferent between the offering and the cash. Next is the price the company charges its consumers for its good or service. Third is cost, or how much a company has to spend to acquire the inputs to provide an offering. Finally, there is willingness to sell (WTS), an idea we also encountered already. WTS is the price at which a supplier is indifferent between withholding their product or service and cash.

There is consumer surplus when the price of a good or service is below the willingness to pay (as we saw in exhibits 7 and 8). Willingness to pay can be difficult to measure but is determined by economic, emotional, and situational drivers.[117] You know that sensation when you buy something and feel like you got a good deal.

There is supplier surplus when suppliers (most notably employees) receive more for their good or service than their WTS. For example, in the late 1980s and early 1990s Lehman Brothers created a unique environment in their equity research department, including the ability to work from home, that allowed them to pay their analysts 25 to 30 percent less than rivals.[118]

Exhibit 27: The Value Stick Reveals Value Creation



Source: Based on Felix Oberholzer-Gee, Better, Simpler Strategy: A Value-Based Guide to Exceptional Performance *(Boston, MA: Harvard Business Review Press, 2021), 14.*

Value creation for the firm is the difference between its price and cost, including the opportunity cost of capital. But the value stick makes clear that overall value creation is also relevant. For example, concepts such as "scale economies shared" and "create more than you consume" are explicit acknowledgments that sustainable value creation reaches beyond the boundaries of the firm and that how the company shares value with consumers and suppliers is important.[119] Firms can create value by increasing WTP and lowering WTS along its own value stick, as well as lowering WTP and increasing WTS along the value stick of its competitors.

The value stick also suggests that the two main ways a company can create value is to either have higher relative prices or lower relative costs. (Some companies may be able to achieve both). Executives and investors often associate higher relative prices with a differentiation, or consumer, advantage and lower relative costs with a cost leadership, or production, advantage. A third generic strategy, focus, entails addressing a niche market and may draw advantage from either the price or cost side.

We will show how differentiation and cost leadership strategies show up in the composition of ROIC with some basic financial statement analysis. But for now, we turn to a structured approach to understanding how a company creates value.

Value chain analysis. Michael Porter emphasizes that strategy is distinct from aspirations, vision, or values. Strategy is about selecting activities in order to establish a difference from competitors that a company can maintain. Activities are "discrete economic functions or processes" that lead to relative advantage with regard to price and/or cost. These activities require a combination of human, intangible, and tangible capital.[120]

Porter also distinguishes between operational effectiveness and strategic positioning. Operational effectiveness is about sameness, and captures how well a company does the activities it has in common with its competitors. Strategic positioning is about difference, and defines how a firm's activities differ from those of the competition. Porter emphasizes that where there are differences, there are trade-offs.[121]

The value chain is a tool that Porter developed to analyze the sequence of activities a firm selects in order to compete.[122] The value chain is part of what he calls the "value system," which you can think of as the span from WTP to WTS on the value stick. There are nine categories of activities necessary to compete. Some of these relate to primary activities, including receiving inputs, transforming them into products, and selling the output, and others are support activities, such as managing people and technology. Understanding how these activities are linked to one another is also useful.

Joan Magretta, a strategy scholar and author, suggests four steps to draw lessons from value chain analysis:[123]

- **Create a value chain for the industry.** Exhibit 28 is an example for the airline industry. You can see the industry's nine categories of activities. Keep in mind the profit pool analysis from exhibit 9 to get a sense of which activities might help or hinder economic profitability.
- **Compare the value chain of the focal company to that of the industry.** Examine the configuration of activities for a particular company and see how it compares to others in the industry. See if you can find points of difference that may reflect a competitive advantage or disadvantage. For example, Southwest Airlines historically used only Boeing 737 aircraft, flew point-to-point instead of the more traditional hub and spoke, and provided no frills to passengers. A company risks engaging in the "competition to be the best" when its value chain is too similar to that of its peers. This can crimp the prospects for value creation.[124]

- **Focus on the drivers of price or sources of differentiation.** Sustainable value creation requires a company to perform activities differently or to perform different activities. This can come from any activity along the value chain, from inbound logistics to service.
- **Focus on the drivers of cost.** Estimate the full costs of each activity as accurately as possible. Seek existing or potential differences between the cost structure of the focal firm and that of its competitors. For instance, for Southwest Airlines, the choice to use one type of aircraft lowers procurement, training, and maintenance costs. Flying point-to-point leads to faster gate turnarounds and better aircraft utilization. And providing passengers with limited amenities keeps costs down. But note that these are all trade-offs: one aircraft type limits variability for loads and routes; point-to-point is not as flexible as hub-and-spoke; and no frills does not appeal to all consumers.

Value chain analysis provides an opportunity to think carefully about activities and how they can add value to the firm. But it is also very important to consider how a firm can push its boundaries by increasing WTP and lowering WTS.

Exhibit 28: The Value Chain for the Airline Industry

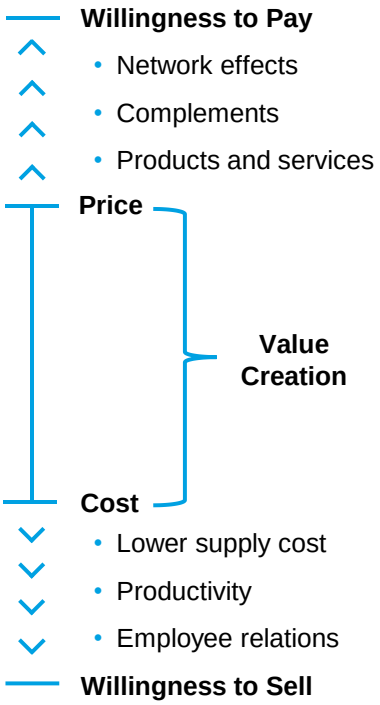
Support Activities	**Firm Infrastructure**	Corporate Management: Strategy, legal, and corporate governance	Financial Management: Budgeting, financial planning, and investor relations			
	Human Resources Management	Recruiting and Training: Pilots, cabin crew, ground staff, and maintenance personnel	Employee Relations: Managing relationships with labor and complying with labor laws			
	Technology Development	Information Technology Systems: Build/maintain systems for reservations, flight scheduling, in-flight operations, and customer relationship management (CRM)	Innovation: Pursue improvements in fuel efficiency, safety, and customer experience			
	Procurement	Supplier Management: Aircraft, fuel, catering	Contract Negotiations: Seek better terms and prices			
	Primary Activities	**Inbound Logistics** -Managing fuel -Acquiring aircraft (purchase or lease) -Catering supplies -Flight schedules and crews	**Operations** -Repairing and maintaining aircraft -Ticket operations -Ground operations: baggage, boarding, and deplaning -In-flight services -Safety	**Outbound Logistics** -Airport management: gates, slot times, terminals -Ground transportation: shuttle services and rental cars	**Marketing/Sales** -Pricing strategies -Sales channels: direct, travel agencies, online aggregators -Promotions -Advertising -Frequent flyer	**Service** -Customer support -Complaints -Refunds, ticket changes, lost baggage

Source: Counterpoint Global based on Michael E. Porter, Competitive Advantage: Creating and Sustaining Superior Performance *(New York: Simon & Schuster, 1985), 37.*

Adding Value. We now return to the value stick and examine the specific ways a company can add value (exhibit 29). Value for the firm is the difference between price and cost. The study of industry structure through the five forces tells us that the threat of substitutes, threat of entry, and bargaining power of buyers can exert pressure to reduce price, the bargaining power of suppliers can raise cost, and rivalry among competitors can both limit pricing and increase cost.

The focus is how companies can either increase WTP or lower WTS. Adding value in the aggregate creates space for the company to create value for itself. The primary generic strategies, differentiation and cost leadership, remind us that companies tend to focus on WTP or WTS. But there are cases when companies can improve on both dimensions.

Exhibit 29: How to Create Value on the Value Stick

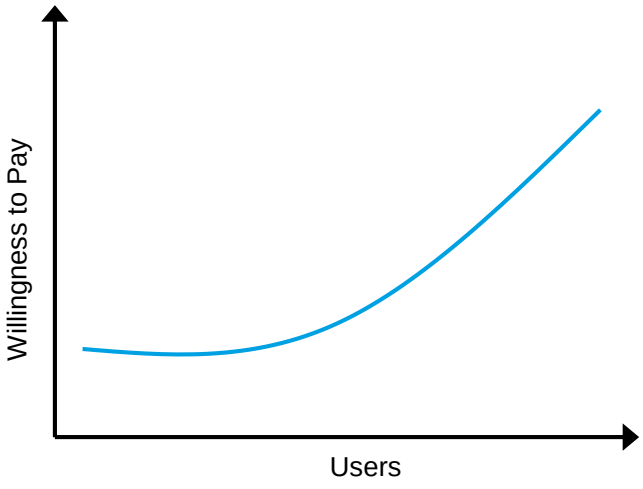


Source: Counterpoint Global based on Felix Oberholzer-Gee, Better, Simpler Strategy: A Value-Based Guide to Exceptional Performance *(Boston, MA: Harvard Business Review Press, 2021), 14.*

Increasing willingness to pay reflects differentiation, or consumer advantage. Oberholzer-Gee, the professor of strategy, argues that companies should worry less about the ability to raise prices per se and focus more on increasing WTP by making their customers happy. Here are the levers he discusses to increase WTP and to potentially add pricing power:[125]

Network effects. We introduced network effects, when the value of a good or service increases as more people use the good or service, in our discussion of barriers to entry.[126] Higher value as the result of demand-side economies of scale can translate into higher WTP (see exhibit 30).

Exhibit 30: Demand-Side Economies of Scale



Source: Counterpoint Global.

Network effects tend to come in one of three forms.[127] Direct network effects exist when members can connect with one another without having to deal with an intermediary. Telephone networks, which have been around for well over a century, are the archetype.

For example, the American Telephone and Telegraph Company (now AT&T) wrote this in its annual report from 1908: “A telephone—without a connection at the other end of the line—is not even a toy or scientific instrument. It is one of the most useless things in the world. Its value depends on the connection with the other telephone—and increases with the number of connections.”[128]

Indirect network effects exist when there are complementary assets, such as razors and razor blades or hot dogs and hot dog buns. The WTP for a complementary asset goes up when the cost of the other goes down. You are willing to pay more for hot dogs if you get the buns for free. We discuss complements in more detail below.

Network effects are also relevant for platform businesses. The feature that defines a platform is its ability to create value by enabling connections, typically between two sides of a market.[129] For instance, Booking Holdings, a travel technology company, connects travelers with hotels, flights, car rentals, and other services. More hotels on the site make it more valuable for travelers, and more travelers make it more valuable for hotels.

Positive feedback describes cases when the strong get stronger and the weak get weaker. This type of feedback is central to how valuable network effects arise. In reality, most businesses are subject to negative feedback, where the strong get weaker and the weak get stronger. The results regress toward the mean.

There are often battles to decide the winner in industries where positive feedback is significant. Figuring out which technology or business will prevail in these skirmishes is rarely easy in real time.[130] Enter “format war” into your search engine and you will see these clashes going back decades. A classic example is the British Gauge War from the 1840s, where the Great Western Railway initially used broad gauge while competitors adopted narrow gauge. A government act in 1846 mandated that all new tracks be narrow gauge, effectively making that the standard gauge.

Companies that attain strong positions in direct, indirect, or platform businesses can enjoy network effects that increase WTP.[131] When that happens, the firm that controls the network has a choice about how to share that value. Keeping the price of the product or service constant increases consumer surplus, while raising the price allows the company to capture more of the value.

Many popular internet sites, including Google, Instagram, and TikTok, are available to consumers for free. But they do collect lots of information about their users that they monetize through auctioning the right to advertise to the highest bidder. The value to advertisers rises in lockstep with the increased value to consumers. This benefits the company that controls the network.

Network effects, especially through platforms, are an important driver of WTP. But they are not a free pass to sustainable value creation. Jonathan Knee, a professor at Columbia Business School and author, describes four “platform delusions.”[132] He argues that platforms are not new business models, digital platforms need not be better than analog ones, networks effects are not always in display with platforms, and not all platform battles lead to a single winner. Further, one study found that just 43 of 252 firms seeking to become successful platform firms achieved their goal.[133]

Complements. As we have discussed, a complement is a good or service that is consumed with another good or service. Complements are so important that Adam Brandenburger, the same professor who co-created the model behind the value stick, teamed up with another professor of strategy, Barry Nalebuff, to write a book about what they call "co-opetition."[134] They note that strategy is appropriately focused on suppliers, competitors, and customers. But they argue that another group, "complementors," can be very important in the quest for value. Complementors are companies that sell a good or service that complement the good or service of another firm.

They created what they call "the value net," which captures not only suppliers and customers but adds complementors as well. Indeed, some professors of strategy have argued that complements should be the sixth force in Porter's five forces model.[135] Sometimes the same company owns complementary goods. For example, Amazon sells both the Kindle electronic book reader and electronic books. In other instances, complementors are the products of separate companies, such as cars made by General Motors and gasoline available through Shell fueling stations.

Firms that can lower the cost of complements, or even give them away, shift the demand curve up for their product or service (see exhibit 8). That increases WTP.[136] Amazon may sell the Kindle at cost to increase the WTP for electronic books. It also may explain why Alphabet, the parent of Google, bought Android, an open-source mobile operating system, in 2005. Google gave Android to handset manufacturers for free and now has about 70 percent of the mobile operating system market. More mobile phones using Android means more developers to create new products to draw consumers to the platform. Ultimately, more users translate into more searches on Google.[137]

In some cases, different firms that offer complements are called "frenemies" because while they acknowledge that their products are more valuable together, they fight over how to divvy up that value.

One example is the legal battles between Epic Games, a video game and software developer, and Apple Inc. and Google. Apple controls the App Store, the top marketplace for apps for the iOS mobile operating system, and Google controls Google Play, the top marketplace for apps for the Android mobile operating system. Epic makes the popular game *Fortnite*, among other products. Apple and Google vet and approve the apps on their marketplaces. These are complements: more video games makes the app marketplaces more useful, and more customers on the marketplaces helps sell more games.

The challenge is how to divide the value. For example, Apple charges a 30 percent fee for apps and in-app purchases, an amount Epic felt was excessive. Epic's CEO complained that Apple is "pocketing a huge amount of profit . . . and they aren't really doing much to help us anymore."[138] In response, Epic launched its own direct payment system in *Fortnite* to reduce the fees, which prompted Apple to kick the company off the platform in August 2020 for violating the store's guidelines. That resulted in a lawsuit.

Products and services. Products and services that confer status, reduce search costs, consumers use by habit, or have high switching costs will induce a higher WTP than other offerings in the market.

Consumers do not buy luxury brands for functionality only but also to enhance self-esteem through social status. Willingness to pay for luxury brands is higher than that of equivalent products not for what they do but for what they signal.[139]

An experience good is a product or service that a consumer can assess only after he or she has tried it, such as a restaurant, hotel, or movie. Consumers readily evaluate most offerings at the moment of purchase, including furniture, appliances, and sporting goods. Many consumers say that they are willing to pay more for greater

convenience and a good interpersonal experience.[140] Providers of experience goods can encourage a high WTP based on their image, reputation, or credibility.

Search costs measure the money, time, and cognitive effort a consumer exerts to find a suitable transaction. These costs are a function of the information available about an offering, its complexity, and how much the consumer knows about it. Consumers will pay more for a good or service they know and like to avoid search costs, even if a better offering exists.

Businesses can also reduce search costs for consumers so as to increase the WTP for the goods or services they offer. Video streaming and e-commerce sites use algorithms to generate recommendations. These algorithms tend to improve as they are fed more data about consumer choices. Research reveals that recommendations based on the tastes of participants increased their WTP.[141]

We will discuss brands in more detail below, but for now it is important to appreciate that a brand is not valuable in and of itself. Proper analysis demands understanding exactly how a brand increases WTP or lowers WTS.

A habit is when a consumer buys a good or service automatically without thinking about it.[142] Habit is sometimes described as “horizontal differentiation,” a preference for an offering that is not clearly superior or inferior to other options. Habitual buying varies by consumer and category but is more prevalent for frequent purchases such as soft drinks, toothpaste, and pet food. For instance, consumers who buy a particular brand of soft drink by habit are less price sensitive than the population overall.[143]

We have discussed switching costs as part of the assessment of supplier power, buyer power, and barriers to entry. Switching costs arise because a good or service creates customer lock-in, or dependence on a supplier. Exhibit 31 shows various types of lock-in and the switching costs associated with each.

Earlier we defined switching costs as what buyers or users have to endure to move from one supplier to another. But that is incomplete. The total switching cost is the sum of the cost to the customer and to the new supplier.[144]

Think of switching from one wireless carrier to another. You bear some costs in terms of time and trouble, but chances are the rival carrier is offering you a sweetener to compensate you for the effort. The new carrier’s customer acquisition cost reduces your switching cost but does not change the total switching cost. This is important because the level of WTP is not just a function of consumer switching costs but also what competing suppliers are willing to pay to acquire a customer.

Exhibit 31: Types of Lock-In and Associated Switching Costs

Type of Lock-In	Switching Cost
Brand Loyalty	Psychological attachment; potential dissatisfaction with new brand
Compatibility	New systems may not work well with existing ones; integration costs
Contractual	Early termination fees; legal costs for breaking contracts; loss of any discounts
Loyalty Programs	Loss of accumulated rewards; inconvenience of setting up new accounts
Data	Costs and risks of transferring and converting data
Geographical	Moving costs; inconvenience of changing physical locations; loss of local benefits
Learning Curve	Have to learn new system; decrease in productivity initially and need for additional training
Network Effects	Less access to network members and loss of business relationships; potential smaller user base on new platform
Search Costs	Time, money, and effort spent learning about alternatives

Source: Counterpoint Global and Carl Shapiro and Hal R. Varian, Information Rules *(Boston, MA: Harvard Business School Press, 1999), 117.*

The aggregate switching cost is the cost to switch per customer times the number of customers. Switching costs can be sizeable and straightforward (e.g., switching suppliers for enterprise resource planning) or small but cumulatively significant (e.g., modest cost each for millions of customers to change auto insurance providers).

Pricing is useful to discuss before we leave the topic of increasing willingness to pay and consumer advantage. Our thinking has evolved in this area.

Lots of executives and investors focus on pricing power, a company's ability to raise prices on their offerings without losing customers or harming demand. Warren Buffett reflected this view when he said, "The single-most important decision in evaluating a business is pricing power. If you've got the power to raise prices without losing business to a competitor, you've got a very good business. And if you have to have a prayer session before raising the price by a tenth of a cent, then you've got a terrible business."[145]

We believe the issue is more nuanced, especially as it relates to sustainable value creation. We agree with Felix Oberholzer-Gee on the point that companies should focus on increasing WTP. A company that successfully raises WTP but does not raise its prices creates more consumer surplus. Satisfied customers are vital to a business's health in the long term. A company that lifts WTP and needs to increase its prices has some additional space to do so because it is claiming some of the consumer value it has created. The point is to focus on expanding consumer surplus and then think about how to split it.

Firms that price near WTP risk scrutiny. For example, the U.S. Department of Defense has claimed that some aircraft part producers have earned "excess profits." And the high prices on orphan drugs, which treat rare diseases, has raised the ire of patients, payers, and policymakers.[146]

We also know that the WTP of consumers follows a distribution, with some willing to pay more than others. This introduces the prospect of dynamic pricing, where companies can adjust their prices based on changes in supply and demand. Dynamic pricing is perceived as unfair if it is the result of a spike in short-term demand with a lag in supply. An example would be stores raising prices on snow shovels following a snowstorm.[147] Dynamic pricing is deemed more tolerable if it stimulates supply immediately, such as surge pricing for ridesharing services that induces more drivers to work.[148]

Consumers are motivated to find attractive prices when companies with perishable inventory, such as airline flights or hotel stays, use dynamic pricing. For instance, numerous websites are dedicated to helping identify the lowest airfares available.

Lowering willingness to sell reflecting a cost leadership or production advantage. The ways to increase willingness to pay are relatively easy to understand, if still hard to achieve. But lowering willingness to sell is less intuitive. One way to think about it is from the perspective of the opportunity cost of suppliers. The main suppliers include employees, other companies, and the providers of financial capital.

In assessing value creation, executives and investors commonly focus on consumers and consumer surplus. This makes sense. The value stick also considers supplier surplus, the difference between cost and WTS. Companies that dwell on cost alone can miss the opportunity to lower WTS, which reduces cost while preserving or even adding value for suppliers. A company that succeeds in lowering WTS can transform its relationships with suppliers from being zero-sum to win-win. Productivity in various forms is essential to managing the spread between cost and WTS.

We mentioned briefly that some companies benefit from both consumer and production advantages. We will return to that point after we review some of the ways to reduce WTS:

Lower supply cost. This can take a number of forms. One is data sharing. Most companies collect data on the preferences and purchase habits of their customers. Sharing this information with a supplier can make the supplier more efficient and lower its WTS. For example, the sharing of information between Walmart and Procter & Gamble (P&G), one of its leading suppliers, led to lower inventories and higher sales for P&G.[149]

Years ago, we had a private conversation with the CEO of a division within a consumer products company that did a lot of business with Walmart. Some of the company's competitors grumbled over Walmart's drive for lower wholesale prices, but this executive was much less concerned. His point was that the data Walmart shared allowed him to manage his division's balance sheet and costs more effectively.

Here is some simple math to show how that type of information might lower a supplier's profit margin but increase its ROIC. Assume the supplier, without the benefit of buyer information, earns a 10 percent profit margin (net operating profit after taxes ÷ sales) and has 1.5x invested capital turnover (sales ÷ invested capital) for an ROIC of 15 percent (10% × 1.5 = 15.0%).

The buyer provides high-quality data about which products are selling, regional patterns of purchase, and price elasticity. This information allows the supplier to better manage its costs, supply chain, and inventory. As a result, the supplier's invested capital turnover rises to 2.0x. The supplier can now cut its prices by 25 percent, reducing its profit margin to 7.5 percent, and still earn an ROIC of 15 percent (7.5% × 2.0 = 15.0%). Supplier surplus rises even if the seller cuts its price by only 15 percent because the lower prices and higher capital turnover lead to a higher ROIC.

Production processes protected by trademarks, patents, licenses, operating rights, or geographic positioning also lower costs. Further, there are the rare instances where one company has unique access to an input. For instance, Verisk Analytics, a data analytics and risk assessment firm, maintains one of the world's largest databases of records about insurance and risk management. Dozens of its customers contribute to the data. The company aggregates the data and sells predictive analytics and decision support products to its customers.

Productivity. Recall that operational effectiveness is how well competitors perform identical activities. Michael Porter argues that operational effectiveness is "necessary but not sufficient" for a company to generate superior performance.[150] But the reality is that large differences in productivity exist across, and within, industries. For example, economists found that U.S. manufacturing plants in the 90th percentile of productivity generated nearly twice the output of those at the 10th percentile.[151] Similarly, there are large disparities in management practices across countries.

The quality of management skills appears to be correlated with the national level of economic development. Firms with high-quality management are more productive than firms with low-quality management.[152] High relative operational effectiveness lowers the company's cost and WTS, as the company needs fewer inputs to generate the same output as its competitors.

The learning curve, discussed earlier, can lower cost and WTS as the cost per unit declines as a function of cumulative experience. The benefit of learning curves comes from accumulated experience and know-how. This is different than economies of scale, where lower costs are the result of higher output. The learning curve and economies of scale are distinct concepts but often occur at the same time.

Complexity also provides an opportunity for productivity differentiation. A process to produce a good or service that is simple and successful will attract competition, eventually eroding advantage. A process to create an offering that is complex, with demanding knowledge or coordination capabilities, can lower WTS and be a source of advantage. Examples include manufacturing for aircraft, nuclear energy, and rockets and spacecraft.

Another important source of productivity, if sometimes overlooked, is balance sheet management. Some companies can produce more cash flow using less invested capital than their competitors.[153] This productivity was one of the main reasons that Amazon was able to disrupt Barnes & Noble, then the largest bookseller in the U.S., in the late 1990s.

One significant difference between the businesses was the cash conversion cycle (CCC), an important measure of working capital efficiency. The CCC captures how many days a company's cash is tied up in working capital during the normal course of business. The drivers of an attractive CCC include holding inventory for a short period, collecting quickly on accounts receivable, and paying suppliers slowly.[154]

In the 1990s, these retailers received their books primarily from wholesalers. In 1999, Barnes & Noble held inventory for 149 days on average, collected cash in 6 days, and took 75 days to pay its suppliers (mostly the wholesalers). That means that the CCC was about 80 days (149 + 6 − 75 = 80). Another relevant point is that book retailers could return unsold books to the wholesaler, and ultimately the publisher, for a full refund.

Amazon's business model was totally different. They held inventory for 29 days, did not disclose their collection time (2 or 3 days is a reasonable guess), and paid their suppliers in 60 days. Their CCC was about -30 days. Further, they returned books to the wholesalers at a much lower rate than did the bricks-and-mortar retailers.

There are two important points here, both of which were knowable at the time. The first is that the wholesalers were better off dealing with Amazon because they got paid faster (60 versus 75 days) and had fewer product returns to deal with (traditional retailers returned between one-third and one-half of all books at that time). The second is that Amazon's negative CCC was a source of cash as long as the company was growing because it received cash for a sale before it had to pay its suppliers.

Amazon's productivity advantage lowered WTS because its business model required less capital and was more attractive to book distributors because it offered more attractive payment terms.

Companies also use invested capital productively when they achieve economies of scale as they have sufficient sales to cover their fixed costs. Fixed costs include the cost associated with fixed assets, which are not sold or consumed during the normal course of business, and the cost of the labor required to run the business.

For example, retailers manage distribution networks that they have built to create access for their products. Most scale advantages are geographically local as it is extremely hard to create national or international economies of scale.[155]

Walmart is a good example. The density of stores and distribution centers is one of the keys to value creation for a retailer.[156] When Walmart started in the early 1960s, stores and distribution centers were clustered near Bentonville, Arkansas.[157] The company's ROIC in its first couple of decades of operations was consistently attractive, averaging in the high teens and comfortably in excess of the cost of capital.

Those initial density advantages dissipated as Walmart expanded geographically, both in the U.S. and abroad, into areas where other retailers were already established. As a consequence, Walmart's ROIC has trended lower since 1990 and is now much more similar to the cost of capital. This lesson applies to businesses that rely

on distribution networks: it is a challenge to expand beyond a profitable but geographically-limited nexus while sustaining high ROICs.

Economies of scope exist when a company can leverage its resources to offer a variety of products at a lower cost than can specialized companies for each offering. One illustration is an internal knowledge spillover, where ideas from one area of a company are useful in other areas.

This is a common story for big pharmaceutical companies. For example, Pfizer's research into a drug intended to treat hypertension showed an unexpected side effect that ultimately led to the blockbuster drug, Viagra. Novartis developed a drug to deal with arthritis that was useful to treat heart disease. And Merck developed a drug for swollen prostate glands that led to a drug to tackle baldness.[158]

Another example of economies of scope that more directly reflects supplier surplus is the acquisition of small companies by big companies. Large companies, relying on economies of scope, can buy small companies at a price that is higher than what those businesses would be worth as standalone entities. This also helps explain the decline in initial public offerings since 2000 versus the 1980s and 1990s.[159]

Productivity also shows up in the advertising cost per consumer for a good or service. For traditional advertising, when the fixed costs such as advertisement development and network costs are generally similar for all companies, large companies have an advantage over small companies in cost per potential consumer because their costs are spread over a larger base.

For digital advertising, which is currently more than two-thirds of ad spending in the U.S., larger companies often have more data about how their consumers use their goods and services and can therefore target their advertising more efficiently.

Employee relations. Labor is the largest expense for most companies. This means that increasing employee satisfaction is one of the most meaningful ways that a firm can increase supplier surplus. One way to do that is to pay employees more than what they would be willing to accept. This works if satisfied employees generate more sales or incur lower costs than they would otherwise. For instance, Costco, a warehouse club retailer, pays its employees well above the industry average but also has employee turnover well below the average. This trims hiring and training costs relative to peers.

Paying employees more, by itself, is not an ideal strategy because it risks creating a wealth transfer to employees from other stakeholders, which eventually weakens the business. Further, the correlation between compensation and employee satisfaction is weak.[160] What works is creating a culture that fosters intrinsic motivation. As we saw with the example of the research department at Lehman Brothers, establishing intrinsic motivation can simultaneously increase employee satisfaction and lower WTS.[161]

Autonomy, mastery, and a sense of purpose are the core elements of intrinsic motivation within the workplace.[162] Autonomy is the sense of being in control of what to do and how to act in order to achieve the firm's goals. Mastery is the feeling of a fit between an employee's abilities and the opportunity to build skills to advance in the organization. Purpose is the sense that an employee's efforts help contribute to a greater good.

When assessing a firm's culture, consider whether employees are engaged, proactive, committed to delivering value for the customer, accountable, and willing to learn. Employees in companies with great cultures still want to be paid fairly. Paying them above their WTS can boost productivity and employee surplus.

Another approach to managing WTS is to use data to manage employees effectively. Domino's Pizza, a pizza restaurant chain, uses technology to carefully track consumer demand so that it can coordinate anticipated workflows with staff schedules. This leads to fewer labor hours per unit of sales, reducing the company's cost, but it also boosts employee satisfaction because workers are busy but not overwhelmed.

Differentiation (consumer) and cost leadership (production) advantages. We have seen that economies of scale, the idea that the cost per unit declines as output rises, can arise from either the demand side, via network effects, or the supply side, through leveraging fixed costs. A small subset of companies enjoy scale from both the demand side and the supply side. This is tantamount to pursuing a differentiation and cost leadership strategy at the same time.

Alphabet, the parent of Google, is a good case in point. The more people who use Google the more information the company can collect about them. These data allow advertisers to spend their digital marketing dollars more efficiently. Those advertising dollars are Google's revenues, which allow the firm to improve its functionality and add even more value for its users. This positive feedback is the demand side.

Google's size means it can absorb high fixed costs that competitors are challenged to match. This leveraging of fixed cost is the supply side. For example, it is estimated that Google paid Apple $20 billion a year to make Google the default search engine on the iPhone, iPad, and Mac.[163] Google's market position translates into demand- and supply-side scale that leads to robust profitability and scrutiny from antitrust regulators.

Barriers to entry and the value stick. Sustainable value creation is linked to barriers to entry. But we need to understand the link between the types of barriers to entry and where they show up on the value stick. Exhibit 32 shows the sources of economic profit that various barriers to entry allow and where those advantages appear.

Exhibit 32: Where Barriers to Entry Appear on the Value Stick

Sources of Economic Profit	
Barriers to Entry	**Where It Appears on Value Stick**
Advantage unique to incumbents, including proprietary technology, brands, prime locations, and unique access to distribution	Increases WTP and can lower cost
High switching costs discourage users from adopting a new offering	Increases WTP
Network effects - value to customers increases as more customers use the product	Increases WTP
Minimum efficient scale is high because of large required initial investments	Cost and WTS advantage
Economies of scale as the result of larger volume	Can increase WTP and lower cost and WTS
Government policies or regulations	Lowers cost relative to potential entrant

Source: Counterpoint Global and Joan Magretta, Understanding Michael Porter: The Essential Guide to Competition and Strategy *(Boston, MA: Harvard Business Review Press, 2012), 47-50.*

Specific advantages for a firm show up when a company is able to share some of the value it creates for customers and suppliers. Before leaving this section you should be able to answer some questions about a company:

- Is the company's value proposition different than that of its competitors?
- Is the firm's value chain tailored to the value proposition?
- Can you identify the choices, or trade-offs, the company has made to make it different from its rivals?

How differentiation (consumer) and cost leadership (production) advantages show up in financial statements. We noted that measuring the moat is not about intellectual insight. The objective is to figure out how a company is doing and whether its strategy will yield long-term value creation, measured as the magnitude and sustainability of the spread between ROIC and WACC.

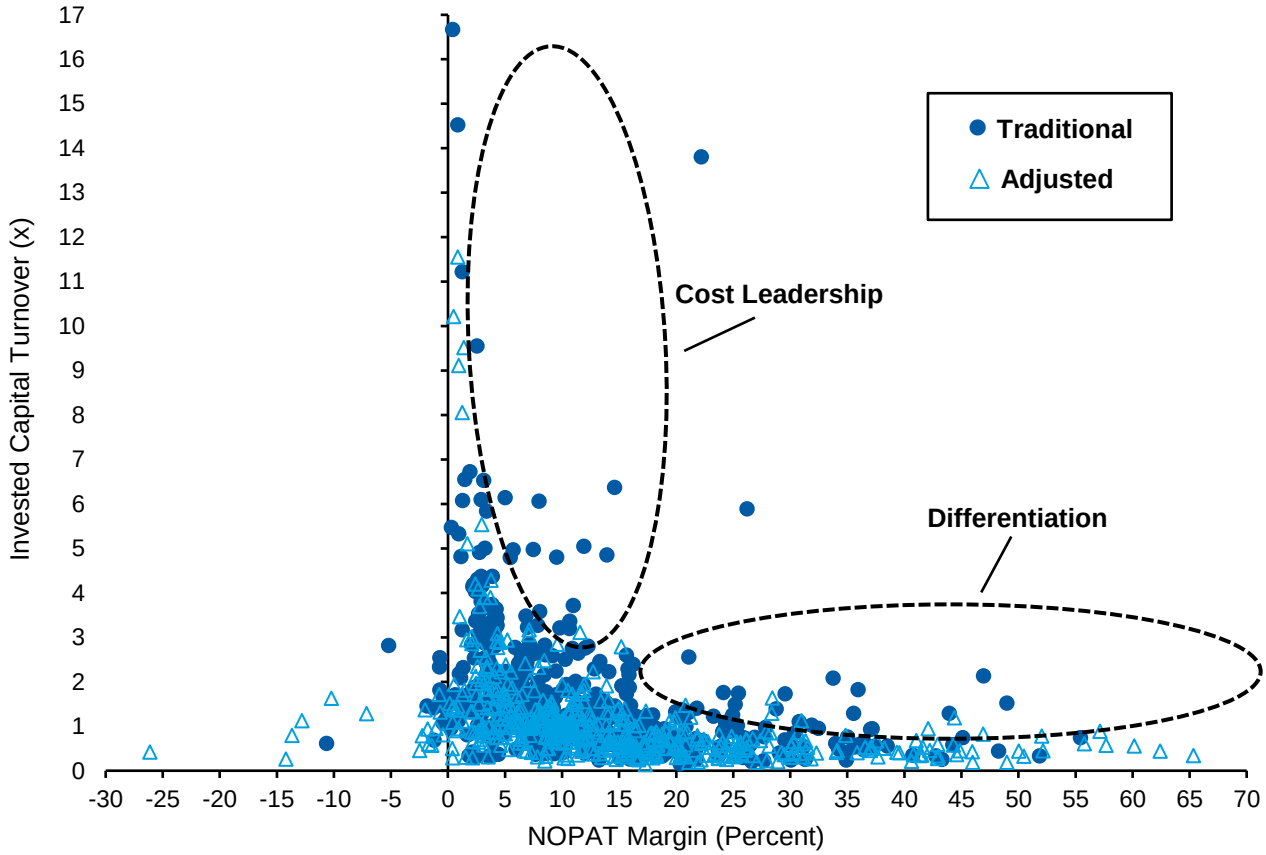
We can combine strategic analysis with financial statement analysis to help direct our assessment of value creation. The strategic analysis guides our thinking about whether and how a company has an advantage, and it broadly focuses on differentiation (consumer advantage) and cost leadership (production advantage). Financial statement analysis allows us to decompose ROIC into NOPAT margin and invested capital turnover. This is called a DuPont analysis.[164] When these terms are multiplied, the sales cancel and what is left is NOPAT/invested capital, or ROIC.

The insight is companies that enjoy attractive ROICs via a differentiation strategy tend to have high NOPAT margins and satisfactory invested capital turnover. Companies that are successful because of cost leadership generally have satisfactory NOPAT margins and high invested capital turnover. The calculation of ROIC gives you a sense of whether the business is creating value, and the decomposition of ROIC guides your focus toward understanding whether the source is differentiation, cost leadership, or both.

Exhibit 33 shows the decomposition of ROIC for the top 500 companies, measured by sales, in the U.S. in 2023 (excludes financial and real estate companies). The NOPAT margin is on the x-axis and invested capital turnover is on the y-axis. For each company we show a traditional ROIC calculation (dots) as well as one adjusted for intangible investments (triangles).[165] This adjustment typically increases NOPAT and invested capital. Including intangible investment does not meaningfully change the aggregate or median ROIC for the population, but it does bring extreme readings closer to the average.

The bottom right of the exhibit, companies with high NOPAT margins and low invested capital turnover, is where companies reside when they succeed with a differentiation strategy. The top left, companies with low NOPAT margins and high invested capital turnover, features companies with a cost leadership strategy.

Exhibit 33: Traditional and Adjusted Drivers of ROIC, Top 500 U.S. Companies by Sales, 2023



Source: Counterpoint Global and FactSet.
Note: Includes companies listed on the New York Stock Exchange, NASDAQ, and NYSE American; Excludes American depositary receipts and companies in the finance sector; Values are based on the calendar year and are adjusted for internally-generated intangible assets; Axes truncated for visualization purposes.

Exhibit 34 shows pairs of companies with equal ROICs in 2023 but different sources of competitive advantage. The main message is companies can achieve the same level of ROIC using vastly different approaches.

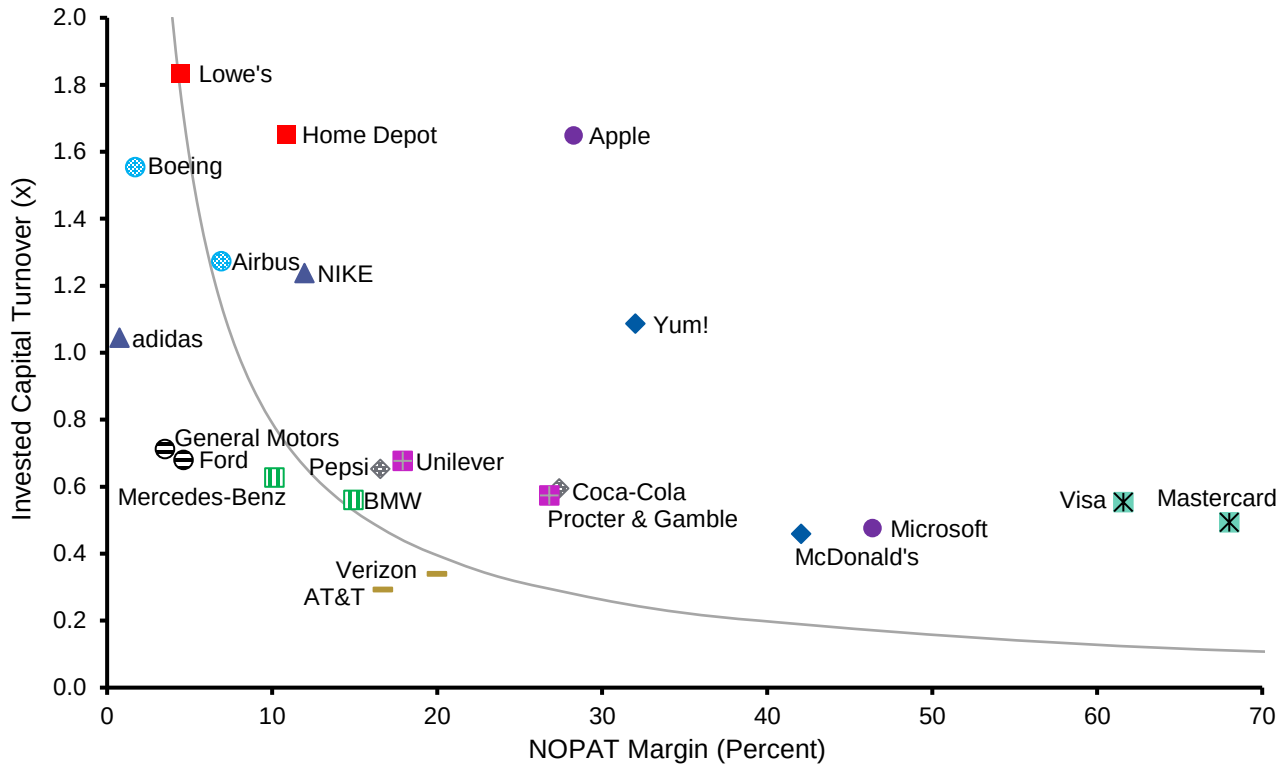
Exhibit 34: Companies with the Same ROICs but Different Advantages, 2023

	Cost Leadership			Differentiation		
ROIC	**Company**	**NOPAT Margin**	**Invested Capital Turnover**	**Company**	**NOPAT Margin**	**Invested Capital Turnover**
18%	Marathon Petroleum	8%	2.3x	Devon Energy	26%	0.7x
16	Costco	4	4.3	Coca-Cola Company	26	0.6
11	Chevron	10	1.1	Hess	20	0.5
9	Cardinal Health	1	9.1	Henry Schein	11	0.8

Source: Counterpoint Global and FactSet.
Note: Values are based on the calendar year and are adjusted for internally-generated intangible assets.

Exhibit 35 looks at pairs of companies that are similar and compares the decomposition of their ROICs, adjusted for intangible investments. The solid line is an isoquant curve that represents the combinations of NOPAT margin and invested capital turnover that equal the cost of capital (around eight percent). Results above the curve represent a positive spread between ROIC and WACC and those below the curve a negative spread.

Exhibit 35: Drivers of ROIC for Pairs of Companies in Similar Businesses, 2023



Source: Counterpoint Global and FactSet.
Note: Values are based on the calendar year and are adjusted for internally-generated intangible assets; Curve represents a cost of capital of 7.9 percent.

One relevant question is whether a differentiation or a cost leadership strategy is more conducive to sustainable value creation. While both strategies can lead to value creation, some research suggests that differentiation is more commonly associated with outstanding long-term results.[166]

Michael Raynor and Mumtaz Ahmed, formerly colleagues as consultants at Deloitte, joined Andrew Henderson, a professor of management, to do a statistical study of corporate performance. They had a couple of goals in mind.[167] First, they wanted to see how many companies achieved superior performance because of luck. Recall that attribution studies account only for about one-half of results and that the rest is either unexplained or reflects luck.

Second, they wanted to understand whether the truly successful companies shared any common approaches to business. They examined the results for more than 25,000 U.S. public companies from 1966 to 2010. ROA was their measure of performance.

They found that a significant percentage of companies that achieve good long-term results do so because of luck. Note that many popular books on corporate success find ostensibly successful companies and then attach

attributes to them. The researchers found that “barely” 12 percent of the hundreds of companies mentioned in that genre met the threshold the researchers set for superior long-term results.[168]

But they also concluded that some companies really are exceptional performers. They then asked whether those companies had any common behaviors. They did not see similarity in actions but they did observe that the companies consistently reasoned in the same way.

That thought process was a strategy of differentiation. Raynor and Ahmed suggest that successful companies operate with two rules: better before cheaper, which means competing on differentiators other than price; and revenues before cost, which means prioritizing growing sales revenue over reducing costs. In other words, focus on the top of the value stick.

We also assessed whether the firms that delivered high and sustained ROICs from 1963 to 2023 relied more on a differentiation or cost leadership strategy. We set a high bar for performance: we included only those companies that had ROICs in the top quintile for spans of ten consecutive years during the period. We found that 643 firms cleared that hurdle, with some appearing more than once. We then investigated whether high NOPAT margin (differentiation) or high invested capital turnover (cost leadership) distinguished the companies from the rest of the sample.

The companies were above the average overall in margins and turnover, but the NOPAT margin made a more significant contribution. For example, the average NOPAT margin of the 30 companies that made the list in 2023 was 4.4 times that of the universe, while the average invested capital turnover was 1.8 times.

The goal of a thoughtful strategy is to allow a company to achieve sustainable value creation. We can measure value creation using ROIC, and a decomposition of ROIC provides vital clues as to how a company is choosing to compete. This is how strategic and financial analysis can work together.

The Role of Government

A strategic analysis of a business typically includes assessments of customers, suppliers, industry conditions, strategy, and competitive rivalry. But government policy can also influence corporate results in a variety of ways. Policies can evolve within a country as the result of changes in political leadership, and can vary from one region of the world to another based on different cultural norms and laws. This variety of policy creates constant change in competitive circumstances for multinational corporations.[169]

Here are examples of government policies and how they can affect financial performance:

- **Tariffs.** These are taxes placed on imported goods or services. The intention is to protect domestic production by making imported products more expensive relative to domestic ones. This affects companies that use these products as inputs as well as consumers who purchase products as final goods. For example, in 2024 the U.S. raised tariff rates on numerous Chinese products, including semiconductors, electric vehicles, lithium-ion batteries, solar cells, selected medical products, and some steel and aluminum.[170]
- **Regulations.** These are rules that governments make and enforce to limit how businesses operate. Regulations create compliance costs for companies. These costs can also create a barrier to entry when incumbents influence regulations.

  Regulation has been on the rise in the U.S. in recent decades. For example, the Regulatory Studies Center at George Washington University tracks “cumulative economically significant final rules by administration” and finds that the number of rules per presidential administration has risen steadily since the 1980s.[171]
- **Industrial Policy.** These are policies that governments use to promote or protect particular industries or sectors. They can also bolster national security. Industrial policy is generally implemented through subsidies, tax incentives, or targeted investments that benefit the targeted areas. For example, the CHIPS and Science Act, passed by the U.S. Congress and signed into law in 2022, provides about $280 billion for domestic research and the manufacturing of semiconductors in the U.S. One goal is to reduce the risk associated with relying on high-end semiconductor chips produced outside the U.S.[172]
- **Antitrust.** These include assessments and actions that promote fair competition, protect consumers, and prevent companies from carrying out anti-competitive practices. The challenge is determining which companies are doing well because of traditional competitive advantages versus those that are getting ahead because of anti-competitive behavior. While there is a sense among many politicians and economists that the U.S. economy is becoming less competitive, the data are equivocal.[173] This means that some antitrust initiatives rest as much on political views as economic realities.

  The Biden administration in the U.S., which served from early 2021 to early 2025, stepped up antitrust activity relative to prior administrations.[174] Following a number of losses in the courts, the government won a case in 2024 alleging that Alphabet Inc.’s most profitable business, Google, had abused a monopoly in the search business. This case will be in the courts for some time but does appear to represent a significant milestone for those concerned with antitrust.

  Further, as of 2024, the government is investigating other large technology companies, including Amazon, Apple, and Meta Platforms, for monopolistic behavior. Applying antitrust law to technology companies is a challenging task.[175] A study of the consequences of the U.S. Department of Justice’s antitrust

intervention against Microsoft shows that while innovation increased, the actions impeded the financial strength of the companies it was meant to aid.[176]

Whether or not it is valid on the economic merits, antitrust scrutiny and action can create substantial costs. These include legal costs, a drain on management time and attention, restrictions on what a company can do, limiting potential acquisitions, and changes associated with enforced remedies such as corporate breakups.

- **Tax Policy.** This reflects a government's stance on taxation and includes tax rates as well as the size and forms of deductions, credits, and incentives. This issue is complicated by the fact that many companies operate in multiple countries. As a result, companies will pursue strategies to minimize their taxes within the letter of the law. In the U.S., the Tax Cuts and Jobs Act of 2017 cut the corporate tax rate from 35 to 21 percent but also limited deductions from interest expense and research and development.

Other government policies worthy of consideration include monetary policy (which can affect the cost of capital), trade agreements (which can open up or restrict markets), labor policy (which can affect labor costs), intellectual property policy (which can influence the protection of intellectual property as well as the costs to establish and enforce rights), and energy policy (which can affect energy prices and efficiency standards).

Firm Interaction: Competition, Cooperation, and Expanding Frontiers

We have discussed firm rivalry, including the degree of competition and cheating in an industry. There are three other aspects of interaction worth considering: competitive mindset, game theory, and expansion of competitive frontiers.

Companies can fall into a mindset of business as a zero-sum game. Indications of this way of thinking include companies striving to be number one in market share, seeking to be the "best," and more of a focus on imitation than innovation.[177] For example, research shows that "competitor-oriented objectives" are harmful to profitability.[178]

The essence of sustainable value creation is not beating competitors but rather adopting a unique strategy. The pursuit of attractive and persistent ROICs shifts the emphasis away from metrics such as market share and toward increasing willingness to pay and reducing willingness to sell. This often means that a focus on customers and employees takes priority over beating competitors head-to-head.

Game theory is one of the best ways to think about how firms interact with their competitors. It is useful because it compels managers to consider how their actions may trigger reactions by their competitors. Executives seek a strategy that creates value after accounting for what other companies may do.[179] The prisoner's dilemma is the most famous example of two-party interaction in game theory.[180] While simple, this model can be useful in evaluation decisions such as pricing and capacity changes.

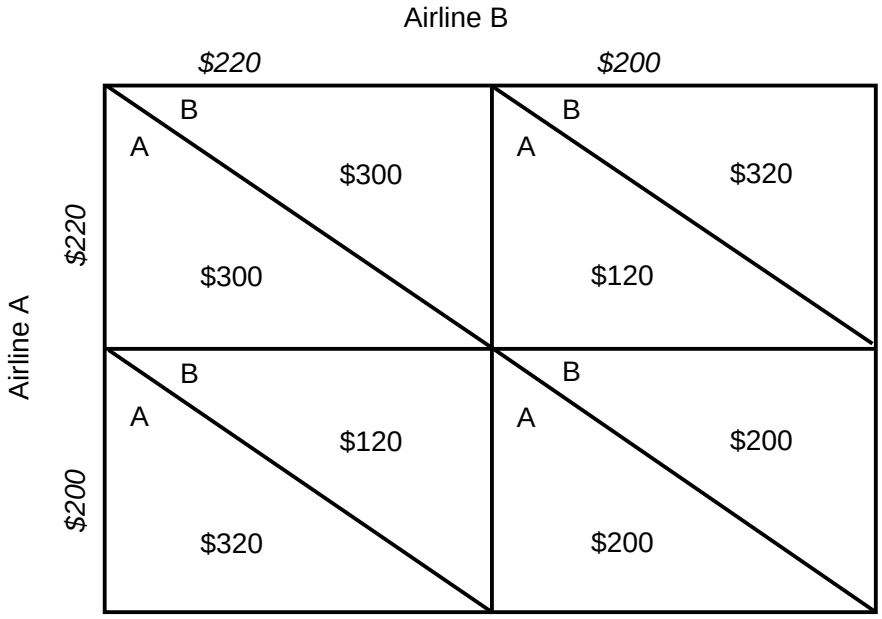
Consider the case of competitors A and B in the airline industry deciding what ticket price to charge for the same route (exhibit 36). We will assume the flight cost for both airlines is $160, the airlines can choose between a $200 and $220 fare, and that 80 percent of a sample of 10 customers will go for the lower price if it is offered.

If airline A sets its price at $200 and B at $220, the figures in the bottom left corner show that A's payoff is $320 and B's is $120. Airline A has a profit of $40 per customer ($200 − $160) and 8 customers ($40 × 8 = $320), while Airline B has a profit of $60 per customer ($220 − $160) and 2 customers ($60 × 2 = $120).

Similarly, if B charges the higher price and A does not, B gets the outsized payoff (top right corner). If both go with the higher price and split the customers, the total payoff is $600, the highest total possible (top left corner). But if both go for the lower price, the total payoff is $400, the lowest combined amount (bottom right corner).

The optimal strategy if the game is played once is to opt for the lower price. This becomes clear if you approach the decision from the point of view of Airline A. The expected payoff from the lower price is higher than the expected value of the higher price assuming there is an equal chance that Airline B will set its price high or low. The identical thinking is operative for Airline B. The lower price gets A and B to the Nash equilibrium, the point where no competitor can gain by a unilateral change in strategy.

Exhibit 36: Pricing and the Prisoner's Dilemma



Source: Counterpoint Global.

In reality, companies often do not pay close attention to available information about important competitor decisions and do not always think rigorously about competitive responses.[181] One example relates to a decision about adding capacity. The chief financial officer of a company in the packaging and container industry noted that the decision to build a new facility was based on economic growth but added, "What we never seem to factor in, however, is the response of our competitors. Who else is going to build a plant or machine at the same time?"[182]

The point is to consider the payoffs from various actions including consideration of the potential reactions of competitors. Executives and investors can go through simple payoffs as in exhibit 36 and build a tree based on sequential actions. This what a chess engine does: it reviews options and settles on the one that is most valuable.[183]

The solution of our illustrative example of pricing assumed that the competitive interaction was limited to a single occasion. But in reality firms constantly interact with one another, so we need to analyze repeated games. This introduces the possibility of a strategy that can lead to a higher payoff.

In 1980, Robert Axelrod, a political scientist, invited a number of game theorists to submit strategies for playing an iterated prisoner's dilemma. The payoffs were similar to those in exhibit 36, but the strategies would compete over 200 rounds of the game.[184]

The winning strategy was "tit for tat." This approach begins by cooperating, equivalent to selecting the higher price in our example, and then simply mimics its competitor's most recent move. For example, a firm employing the strategy would lower its price in its next move if its competitor selected the lower price in its last move.

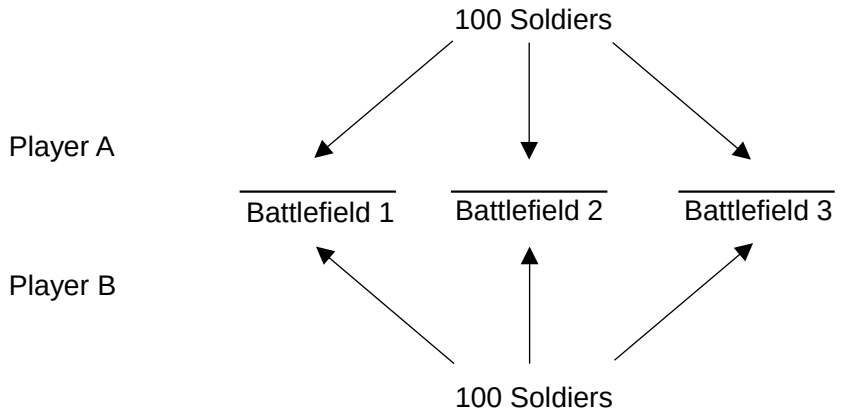
Tit for tat starts by assuming cooperation, quickly and clearly punishes non-cooperative moves, and readily reverts to a cooperative stance when its competitor does. The practical challenge is reading the intentions of other companies. But cooperation does arise in competition, and cooperation has been essential to the success of humans.[185]

Researchers have studied cooperative dynamics in the airline industry and have shown the contrast between payoffs for cooperative behavior and the Nash equilibrium.[186] The world is more complicated than this simple model suggests, but it provides insight into how companies compete.

The prisoner's dilemma is the best-known framework in game theory. But another game, Colonel Blotto, can be useful for modeling competing businesses that have asymmetric resources and options for how to allocate them. Strategists can apply Colonel Blotto to decisions in politics, war, sports, and business.[187]

A simple version has two dimensions: the number of soldiers and the number of battlefields. The adversaries allocate their soldiers across the battlefields blind to their competitor's actions. The allocations are then revealed. The player with the most soldiers wins the battle, and the player who wins the most battles is victorious. Exhibit 37 is a basic version, with players A and B each allocating 100 soldiers across 3 battlefields. The goal is to create favorable mismatches. In this case, player B wins on battlefields one and two and is therefore triumphant.

Exhibit 37: Simple Example of the Colonel Blotto Game



A	30	30	40
B	33	33	34
Winner	**B**	**B**	**A**

Overall Winner: B

Source: Michael J. Mauboussin, The Success Equation: Untangling Skill and Luck in Business, Sports, and Investing *(Boston, MA: Harvard Business Review Press, 2012), 179.*

There are bad strategies in this basic version, such sending all the soldiers to one battlefield. But sensible approaches have outcomes similar to rock, paper, scissors (rock beats scissors, scissors beat paper, and paper beats rock), an intransitive hand game. Blotto becomes interesting when one player has more soldiers than the other and when the number of battlefields expands.

The basic idea is that the stronger player wants to limit the number of battlefields and the weaker player wants to increase them. The stronger competitor is still favored when there are more battlefields, but upsets are more likely. The lesson for underdogs is to seek to increase battlefields by competing in non-traditional ways. Do not try to be the best conventionally but rather focus on being unique.

Breeze Airways is the fifth airline that David Neeleman has founded. Launched in 2021, Breeze seeks to provide "efficient and affordable flights between secondary airports." The airline is shunning head-to-head competition in major hubs and focusing on airports where the major carriers are less likely to allocate resources.

We can also draw a connection between the Colonel Blotto game and the theory of disruptive innovation. Potential disruptors do not try to compete against incumbents with a sustaining innovation. They create a new battlefield where the incumbents are reluctant to compete. Clay Christensen pointed out that incumbents almost always win when competing where they are strong but are motivated to flee a market or ignore it altogether if they do not perceive it to be an immediate threat.

Consistent with the theme of allocating resources, the concept of "linking and leveraging" is also useful to appreciate in assessing firm interaction. Popularized by the economist W. Brian Arthur, linking and leveraging is where companies use their existing technologies or platforms ("link") to expand into neighboring markets ("leverage").[188] Companies that link and leverage expand their competitive frontiers. The goal of this approach is to create value by building on existing strengths. But it also creates exposure to new competitors.

The largest and most successful technology companies today, including Apple, Microsoft, Alphabet, Amazon, and Meta Platforms, maintain strong, albeit declining, market shares in their core businesses. But they are deriving a rising share of overall business from operations that overlap with other technology companies.[189] Linking and leveraging has expanded their competitive frontiers.

For example, exhibit 38 shows the evolution of Amazon's businesses and selected competitors over the last four decades. Following its launch in the mid-1990s, Amazon competed primarily with other booksellers, such as Barnes & Noble. But over time it expanded its scope. Amazon Web Services (AWS) is a particularly revealing case. The genesis of the business was Amazon's embrace of service-oriented architecture its own use. But the company realized it had developed an approach and capabilities that were valuable as an infrastructure-as-a-service product for outside companies. They widely launched the first version of AWS externally beginning in 2006.[190]

Today, Amazon competes not just in retail, but also in cloud computing, streaming services, devices, digital advertising, and healthcare, among other businesses. A number of these lines were launched as complements, as we saw in the case of the Kindle and electronic books. But others compete in businesses where competitors have strong positions.[191]

This brief discussion of motives, interaction, and expansion add more context to the consideration of competitive rivalry. Competitor-focused companies that seek to compete non-cooperatively and expand rapidly into adjacent businesses are likely to face competitive challenges. By contrast, firms focused on creating value by raising WTP or lowering WTS and that appreciate how to generate good outcomes in a game theoretic setting and focus on their competitive advantages may have a better chance at sustainable value creation.

Exhibit 38: Evolution of Amazon's Competitive Frontiers

1990s	2000s	2010s	2020s
Book retail	**General retail**	**General retail/ e-commerce**	**General retail/ e-commerce**
Barnes & Noble	Barnes & Noble	Walmart	Walmart/Flipkart
Borders	Walmart	Target	Target
Books-A-Million	Best Buy	Best Buy	Costco
		Alibaba	Best Buy
			Shopify
e-commerce	**e-commerce**		Kroger
eBay	eBay		Alibaba
	Cloud	**Cloud**	**Cloud**
	Google	Microsoft	Microsoft
		Google	Google
		Oracle	Oracle
	Digital music	**Streaming services**	**Streaming services**
	Apple	Netflix	Netflix
		Apple	Apple
			Disney
			Peacock
			Paramount
			Max/HBO Max
			Spotify
		Devices	**Devices**
		Apple	Apple
		Microsoft	Microsoft
			Samsung
			Roku
			Meta Platforms
			Digital advertising
			Google
			Meta Platforms
			TikTok
			Healthcare
			CVS Health
			Cigna
			United Healthcare

Source: Counterpoint Global and Amazon.

Brands

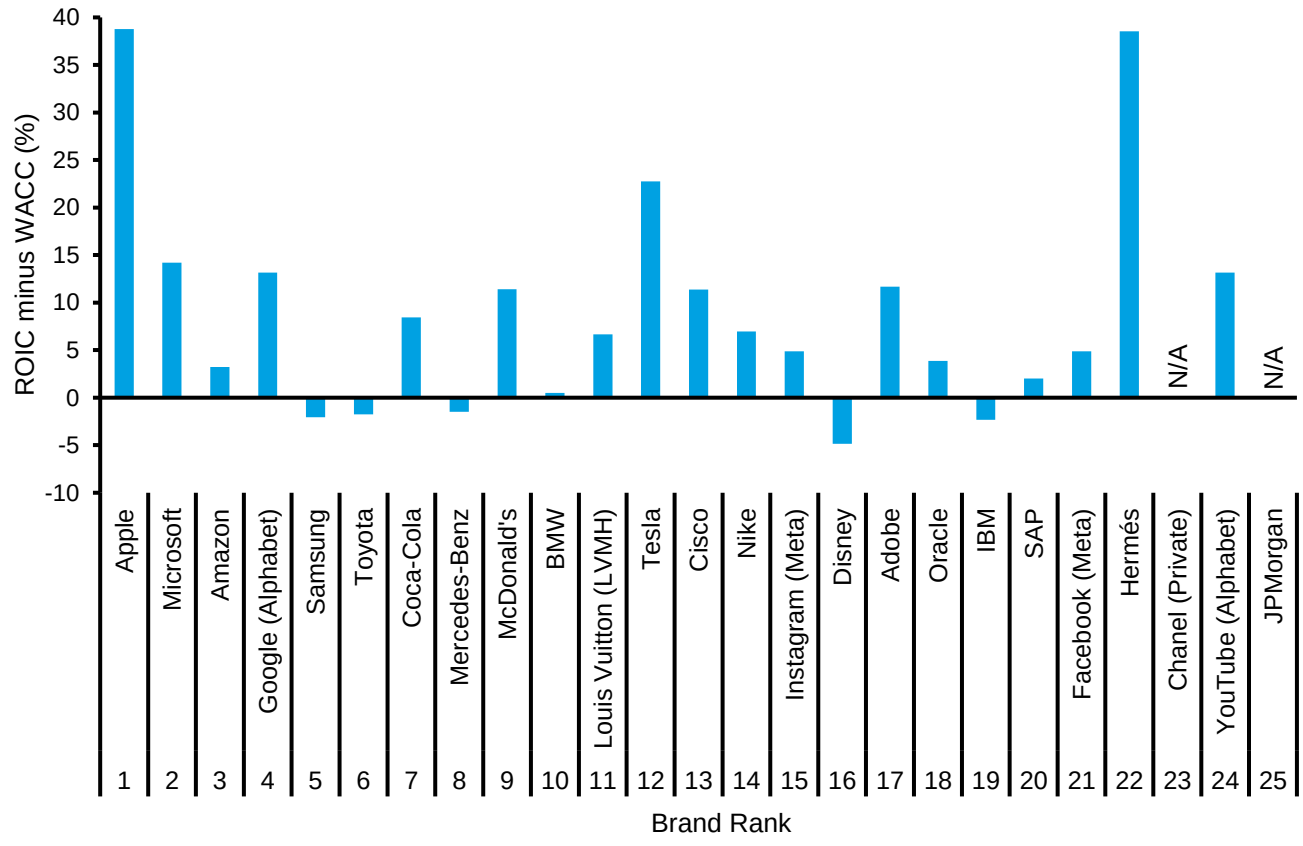
Executives, investors, and strategists commonly cite brands as a source of sustainable value creation.[192] We argue that brands, in and of themselves, are not a source of competitive advantage. What is important is assessing how and why a brand can add value.

There are various ways to value a brand, including measuring the cost to recreate the brand, how much of a premium to book value the stock market pays, and the present value of cash flows the brand generates.[193] Interbrand, a brand consultant, publishes their list of the best global brands every year.[194] Their methodology considers economic profit, how much of the purchase decision can be attributed to the brand, and a measure of brand strength.[195]

Exhibit 39 shows Interbrand's best 25 global brands in 2024 and the ROIC, adjusted for intangible investment, for each company in 2023. The correlation between brand ranking and ROIC is weak. The sign of competitive advantage is an attractive ROIC, and the companies that own these brands do not reliably indicate that.

Yet we all have the sense that brands are relevant. The point is to take the next analytical step and identify how exactly a brand creates value. They contribute to value when they increase willingness to pay or reduce willingness to sell.

Exhibit 39: Interbrand's Best Global Brands (2024) and ROIC minus WACC (2023)



Source: Counterpoint Global and Interbrand.
Note: ROIC is for calendar year 2023 and adjusted for internally-generated intangible assets; ROIC=return on invested capital and WACC=weighted average cost of capital.

The relevance of brands varies by category and country.[196] The proliferation of brands and products has made it increasingly difficult for brands to differentiate themselves.[197] Returning to the value stick reminds us that increasing willingness to pay is commonly about conferring status or creating familiarity that reduces risk for consumers.

We can measure status by looking at the differential prices of similar goods with different brands. Hamilton Helmer tells the story of *Good Morning America*, a television program, purchasing roughly equivalent diamond engagement rings at Tiffany, the jewelry retailer now owned by the luxury brands company LVMH, for $16,600, and at Costco, the warehouse club retailer, for $6,600.

An appraiser placed a value on the Tiffany ring that was $2,500 more than the Costco ring, one-quarter of the $10,000 price differential.[198] The WTP is higher for the Tiffany ring because it confers status that the company has fostered for more than a century through signals such as its robin egg blue boxes and bags.

Brands can also reduce risk. Charlie Munger, the former vice chairman of Berkshire Hathaway, explains it in his inimitable style: “If I go to some remote place, I may see Wrigley chewing gum alongside Glotz’s chewing gum. Well, I know that Wrigley is a satisfactory product, whereas I don’t know anything about Glotz’s. So if one is 40¢ and the other is 30¢, am I going to take something I don’t know and put it in my mouth—which is a pretty personal place, after all—for a lousy dime?”[199]

Brands can also add value by lowering WTS. For example, Walmart or Whole Foods might get a discount from a company with a new food product seeking shelf space. The imprimatur of the retailer is valuable to the food company as it tries to expand its distribution.

Many great companies focus intently on the consumer. But more common are firms that think about selling products that they anticipate their customer will want. Clay Christensen suggested that consumers “hire” products or services to do a specific job. He called it “jobs to be done.”[200] A brand that is effective at getting a job done creates the potential to increase WTP.

A brand that is well known does not always create value. Brands are valuable to the degree that they allow for value creation.

Conclusion

Investing is about understanding what is priced into the market today and anticipating how those expectations may change in the future. One essential aspect of that analysis for long-term investors is an assessment of a company's prospects for sustainable value creation. The point of measuring the moat is to develop a grounded point of view on the magnitude and sustainability of a company's ROIC.

The decomposition of financial results shows that while industry and management are relevant, strategy is the most important determinant of long-term value creation.

We start the analysis with a study of the industry to get a sense of the backdrop for competition. This investigation is guided by the five forces that define industry structure, with a particular emphasis on the threat of new entrants (thwarted by barriers to entry) and rivalry among competitors. We illustrate many of the concepts with data and analysis from the U.S. airline industry.

A common complaint about the analysis of the five forces is that it is static. To address this, we discuss the theory of disruptive innovation, which describes how strong and capable incumbents get unseated by upstarts. We also review the conditions under which companies in an industry are better off being either vertically or horizontally integrated.

We then turn to the analysis of the firm. The value chain can be very helpful in identifying which activities a company has chosen to do differently than its peers. Trade-offs are implicit in those differences. To make the concepts more concrete we review the sources of added value, including those beyond the boundaries of the firm, to see how exactly companies can create value.

We finish with a discussion of pricing decisions, the impact of government action, and how to think about brands.

Generating excess returns by investing in the stock market is difficult. But a sound and thorough analysis of competitive advantage—measuring the moat—can help long-term investors understand why specific companies are unique and capable of sustaining high ROICs.

Buffett on Moats

What we refer to as a "moat" is what other people might call competitive advantage . . . It's something that differentiates the company from its nearest competitors—either in service or low cost or taste or some other perceived virtue that the product possesses in the mind of the consumer versus the next best alternative . . . There are various kinds of moats. All economic moats are either widening or narrowing—even though you can't see it.

Outstanding Investor Digest, June 30, 1993

Look for the durability of the franchise. The most important thing to me is figuring out how big a moat there is around the business. What I love, of course, is a big castle and a big moat with piranhas and crocodiles.

Linda Grant, "Striking Out at Wall Street," *U.S. News & World Report*, June 12, 1994

The most important thing [is] trying to find a business with a wide and long-lasting moat around it . . . protecting a terrific economic castle with an honest lord in charge of the castle."

Berkshire Hathaway Annual Meeting, 1995

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.

"Mr. Buffett on the Stock Market," *Fortune*, November 22, 1999

We think of every business as an economic castle. And castles are subject to marauders. And in capitalism, with *any* castle . . . you have to expect . . . that millions of people out there . . . are thinking about ways to take your castle away.

Then the question is, "What kind of moat do you have around that castle that protects it?"

Outstanding Investor Digest, December 18, 2000

When our long-term competitive position improves . . . we describe the phenomenon as "widening the moat." And doing that is essential if we are to have the kind of business we want a decade or two from now. We always, of course, hope to earn more money in the short-term. But when short-term and long-term conflict, widening the moat must take precedence.

Berkshire Hathaway Letter to Shareholders, 2005

A truly great business must have an enduring "moat" that protects excellent returns on invested capital. The dynamics of capitalism guarantee that competitors will repeatedly assault any business "castle" that is earning high returns . . . Our criterion of "enduring" causes us to rule out companies in industries prone to rapid and continuous change. Though capitalism's "creative destruction" is highly beneficial for society, it precludes investment certainty. A moat that must be continuously rebuilt will eventually be no moat at all . . . Additionally, this criterion eliminates the business whose success depends on having a great manager.

Berkshire Hathaway Letter to Shareholders, 2007

And we recognize that if you've got a very good business, you're going to have plenty of competitors that are going to try and take it away from you. And then you make a judgment as to the ability of your particular company and product and management to ward off competitors.

. . . If you've got a wonderful business, even if it was a small one like See's Candy, you basically have an economic castle. And in capitalism, people are going to try and take away that castle from you.

So, you want a moat around it, protecting it in various ways that can protect it. And then you want a knight in the castle that's pretty darn good at warding off marauders. But there are going to be marauders. And they'll never go away.

Berkshire Hathaway Annual Meeting, 2017

Checklist for Measuring Sustainable Value Creation

Introduction

- ☐ Does the company earn an ROIC above its WACC?
- ☐ Is the ROIC rising, falling, or stable? Why?
- ☐ What percentage of the stock price represents future value creation?

Why Strategy Matters

- ☐ What is the ROIC for the industry, and what is the trend?
- ☐ What is the variance in ROIC for the industry?
- ☐ What is the industry markup and has that changed over time?

Lay of the Land

- ☐ How do companies interact with one another?
- ☐ What is the aggregate economic profit, and how has it evolved?
- ☐ What have been the historical trends in market share?
- ☐ How stable is market share among the competitors?
- ☐ Has industry concentration changed?
- ☐ How would you categorize the industry structure and strategic opportunities?

Three of the Five Forces—Bargaining Power of Suppliers, Bargaining Power of Buyers, and Threat of Substitution

- ☐ How much leverage do suppliers have?
- ☐ Can companies pass on price increases from their suppliers?
- ☐ How much leverage do buyers have?
- ☐ How informed are the buyers?
- ☐ Are there substitute products?
- ☐ Can you identify the source and size of switching costs?

Threat of New Entrants and Barriers to Entry

- ☐ What is the history of entry and exit in the industry?
- ☐ Have you considered a decision tree from the point of view of a potential entrant?
- ☐ Are incumbents known to be aggressive in deterring entry?
- ☐ How specific are the assets in the industry?
- ☐ What is the level of minimum efficient scale?
- ☐ What is the link between minimum efficient scale and total addressable market?
- ☐ What is the link between minimum efficient scale and changes in market share?
- ☐ Are there network effects, and if so, how strong are they?
- ☐ Do incumbents have precommitment contracts?
- ☐ Do incumbents have valuable licenses or patents?
- ☐ Have incumbents benefitted from the learning curve?
- ☐ Have incumbents entrenched themselves by shaping regulation?

Rivalry Among Existing Firms

- ☐ Is there tacit coordination for pricing and capacity addition decisions?
- ☐ How frequent is company interaction?
- ☐ Does the industry have a leader focused on maintaining an attractive structure?
- ☐ How variable is industry demand?
- ☐ How similar are the firms in terms of incentives, time horizon, and ownership structure?
- ☐ Are fixed costs high?
- ☐ Is the industry growing?

Disruption and Dis-Integration

- ☐ Might the industry be susceptible to a disruptive innovation?
- ☐ Are sustaining innovations improving faster than consumer demands?
- ☐ Are incumbents motivated to either flee or ignore segments of the market?
- ☐ Is the industry organized vertically, or has there been a shift to horizontal markets?

Firm-Specific Analysis

- ☐ Have you analyzed the value chain of activities?
    - ☐ Have you created a map?
    - ☐ Have you compared the focal company to peers?
    - ☐ Are there points of differentiation?
- ☐ Does the company increase willingness to pay?
    - ☐ Are there network effects?
    - ☐ Are there complementary products and is their cost going up or down?
- ☐ Do the company's products provide prestige, promote habit, or lower search costs?
- ☐ Is there lock-in that creates switching costs? If so, what type of lock-in is it?
- ☐ Is the company focused on increasing WTP versus just pricing power?
- ☐ Does the company lower willingness to sell?
    - ☐ Does the company lower supplier costs via data sharing?
    - ☐ Does the firm have access to unique inputs such as patents?
    - ☐ Is the company more productive than its peers?
- ☐ Are assets and revenue clustered geographically?
    - ☐ Have benefits of the learning curve made the firm more efficient over time?
    - ☐ Does the business require less invested capital than competitors do?
    - ☐ Are there economies of scope?
    - ☐ Does the company have a culture that creates employee surplus?
- ☐ Does the company benefit from both consumer and production advantages?
    - ☐ Does the company enjoy customer captivity and economies of scale?
- ☐ Have you considered barriers to entry and where they appear on the value stick?
- ☐ Does a disaggregated ROIC suggest a cost leadership or differentiation advantage?

The Role of Government

☐ Are tariffs relevant for the focal industry or company?

☐ Have you considered regulations and scenarios for how they may change?

☐ Is industrial policy, considered in each applicable geography, relevant for ROIC?

☐ Are antitrust issues important directly or via limiting options such as mergers and acquisitions?

☐ How do tax policy, trade agreements, labor policy, and intellectual property protection affect the business you are examining?

Firm Interaction—Competition, Cooperation, and Expanding Frontiers

☐ Is game theory applicable to decisions surrounding price changes and capacity additions?

☐ Does the Colonel Blotto model provide insight into resource allocation and strategy?

☐ Has the company used the linking and leveraging approach to expand its competitive frontiers?

Brands

☐ Does the brand increase willingness to pay? If so, how?

☐ Does the brand lower willingness to sell? If so, how?

☐ Will customers “hire” the brand for the job they want to be done?

Appendix A: Aggregate Data for Companies in the U.S. Stock Market

This appendix provides data that can be helpful in considering the concept of sustainable value creation. The goal is to provide context for executives or investors studying an industry or a specific company.

ROIC. Exhibits 40 to 44 show trends on return on invested capital (ROIC) for public U.S. companies from 1963 to 2023. The analysis includes companies that have been listed on the major U.S. stock exchanges: the New York Stock Exchange, NASDAQ, and NYSE American. We exclude American depositary receipts (ADRs) because they reflect foreign companies and companies in the finance sector for accounting reasons.

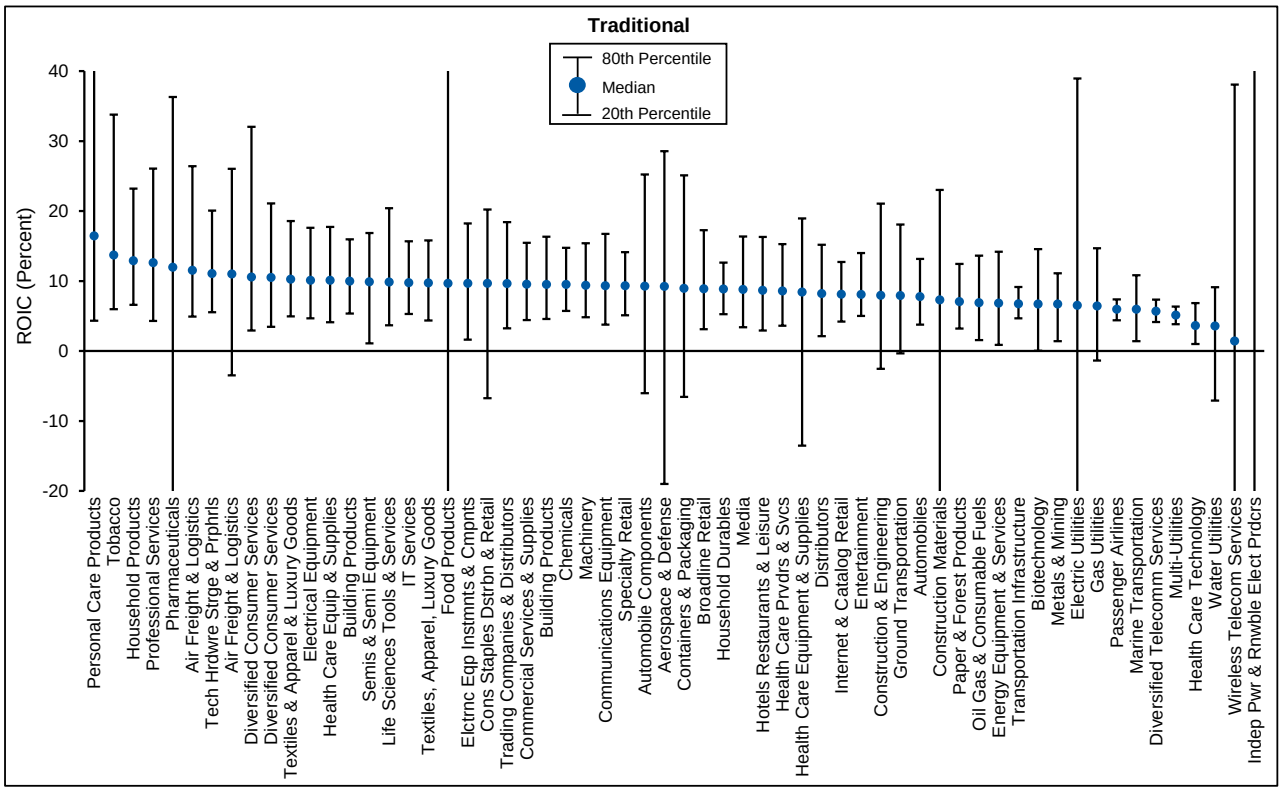
For 1963-1996, our data is from Compustat and reflects fiscal years, and for 1997-2023, our data is from FactSet Fundamentals and reflects calendar years. The choice of using fiscal or calendar years should have limited impact, as we estimate that more than three-fourths of companies align their fiscal years with the calendar year.

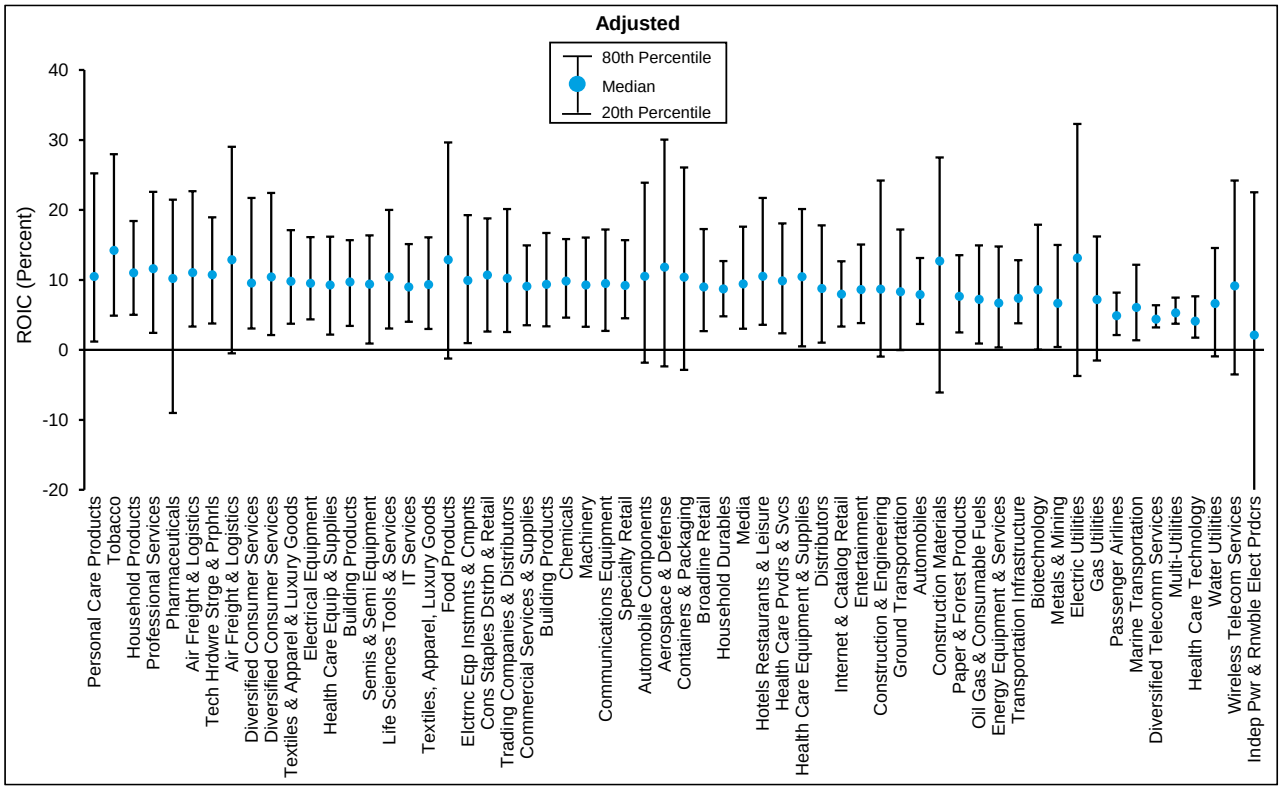
We calculate the ROICs using both a traditional approach and with an adjustment for internally-generated intangible assets. This modification recognizes the rise of intangible investments that companies expense on the income statement. Net operating profit after taxes (NOPAT) and invested capital typically increase as a result of this adjustment, but free cash flow is unaffected.[201]

Exhibit 40 shows ROIC by industry from 1963 to 2023. There are a couple of important takeaways. First, the variance within industries is greater than the variance across industries. This underscores that the industry is important but does not dictate a firm's destiny. All industries have companies that create and destroy value.

The second takeaway is that adjusting ROIC for intangibles tends to pull the very high and very low ROICs toward the middle. The median and average ROICs are similar for both the traditional and adjusted calculations, but the distribution has less variance following the modifications.

Exhibit 40: ROICs by Industry, Traditional and Adjusted, for U.S. Companies, 1963-2023

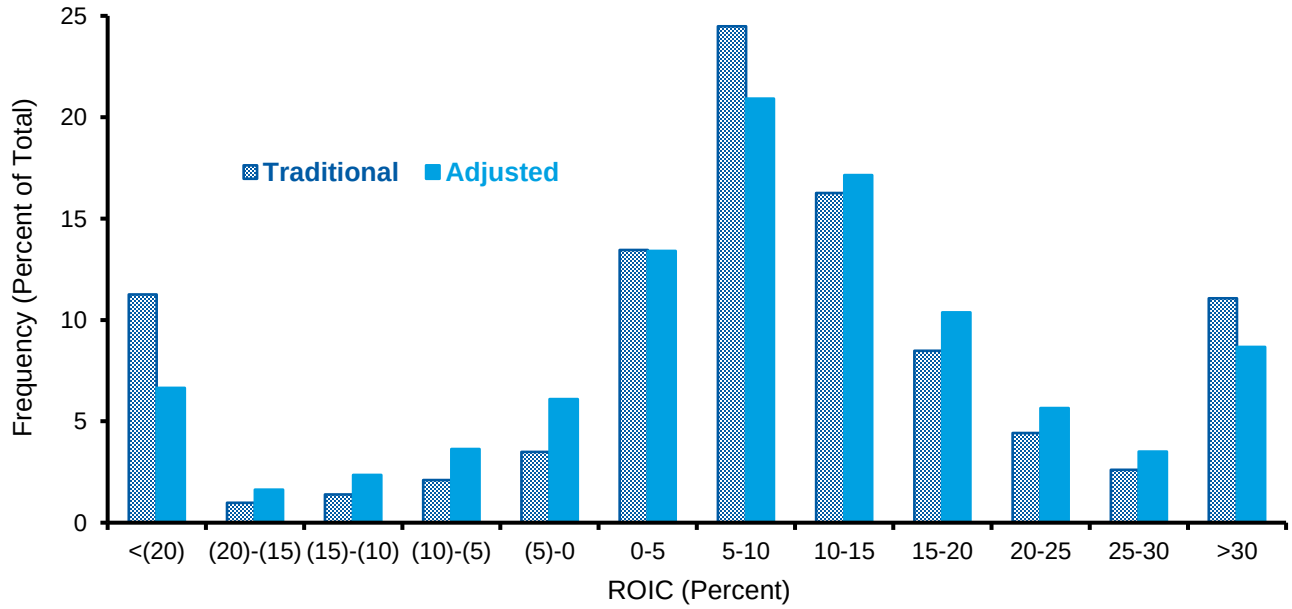




Source: Counterpoint Global, Compustat, and FactSet.
Note: Minimum of 10 million of sales in 2023 U.S. dollars.

Exhibit 41 displays the distributions of traditional and adjusted ROIC for U.S. companies from 1963 to 2023. The point that the adjustment reduces extreme ROICs is made clear by examining the far left and far right sides of the distribution: the frequency of very low and high ROICs is lower for the adjusted calculation than for the traditional one.

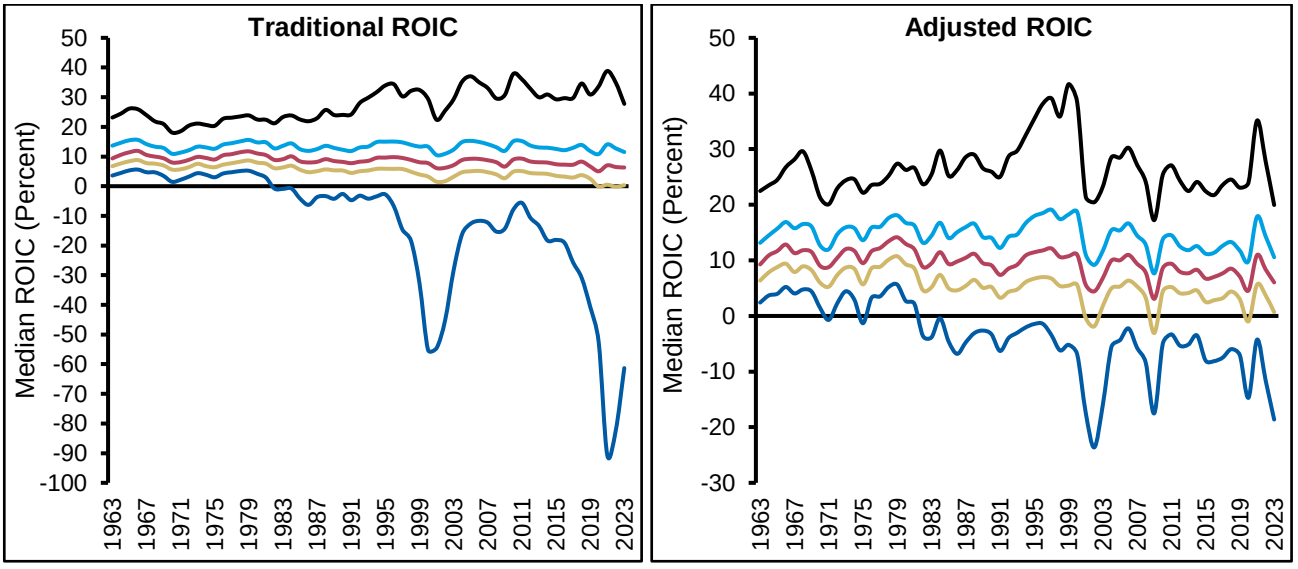
Exhibit 41: Distributions of ROICs for U.S. Companies, 1963-2023



Source: Counterpoint Global, Compustat, and FactSet.

Exhibit 42 shows the traditional and adjusted median ROIC by quintile for U.S. companies for 1963 to 2023. Note that the range for the y-axis is wider for the traditional calculation than for the adjusted one. This is again because the adjustment for intangibles moderates extreme values.

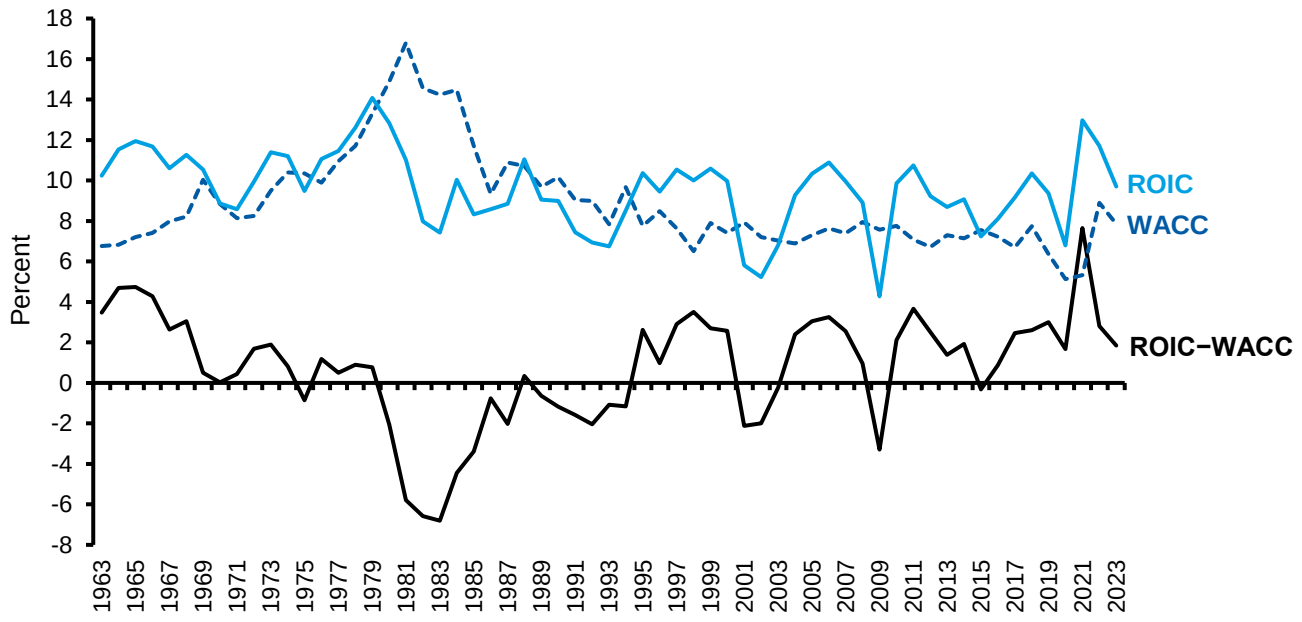
Exhibit 42: Median ROIC by Quintile, Traditional and Adjusted, for U.S. Companies, 1963-2023



Source: Counterpoint Global, Compustat, and FactSet.

Exhibit 43 displays the aggregate adjusted ROIC and the weighted average cost of capital (WACC) for U.S. companies from 1963 to 2023. The ROIC-to-WACC spread reveals whether companies in total create value.

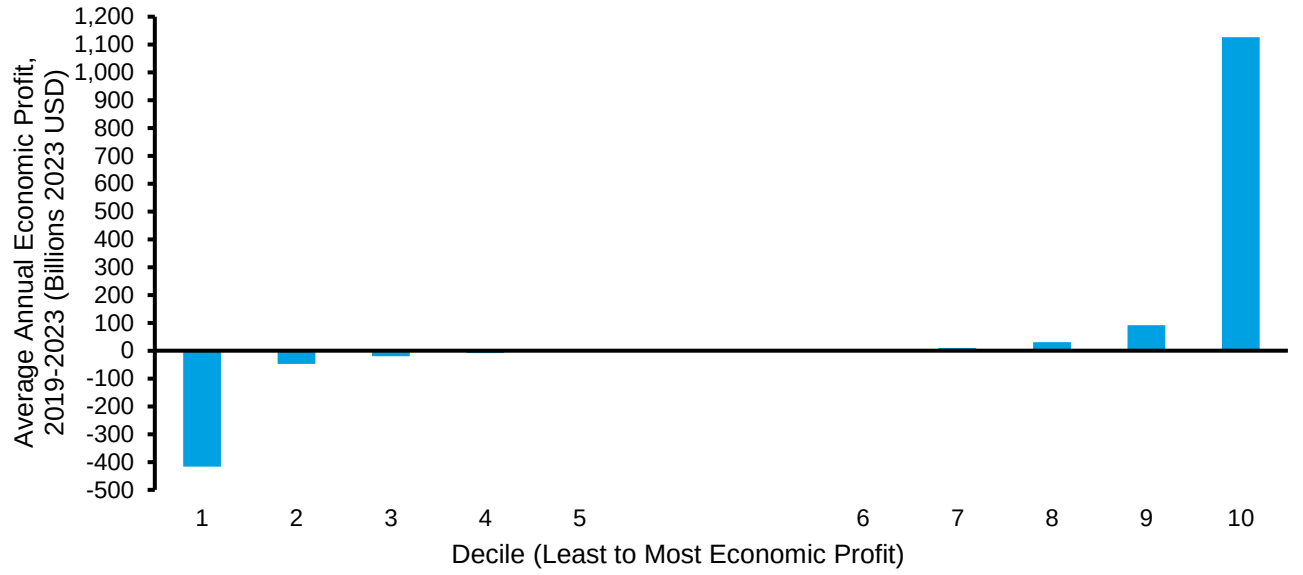
Exhibit 43: Aggregate Adjusted ROICs for U.S. Companies, 1963-2023



Source: Counterpoint Global, Compustat, FactSet, Moody's, Aswath Damodaran, and Federal Reserve Bank of St. Louis.
Note: Capital structure reflects book value of total long- and short-term debt and market value of equity; Cost of debt is the Moody's Seasoned Baa Corporate Bond Yield; Cost of equity = yield on 10-year U.S. Treasury note + equity risk premium.

The spread between ROIC and WACC spread indicates value creation but does not reveal the amount of capital companies have deployed. Economic profit address that limitation by multiplying the ROIC-to-WACC spread times invested capital. Exhibit 44 shows the distribution of economic profit, by decile, on an average annual basis from 2019-2023. The striking feature of this exhibit is that almost all of the value creation and destruction resides in the top and bottom deciles, and the middle eight are roughly value neutral. Specifically, companies in the top decile had economic profit of $1.1 trillion, while those in the lowest decile had negative economic profit of roughly $400 billion.

Exhibit 44: Distribution of Economic Profit for U.S. Companies, 2019-2023



Source: Counterpoint Global, FactSet, Moody's, Aswath Damodaran, and Federal Reserve Bank of St. Louis.

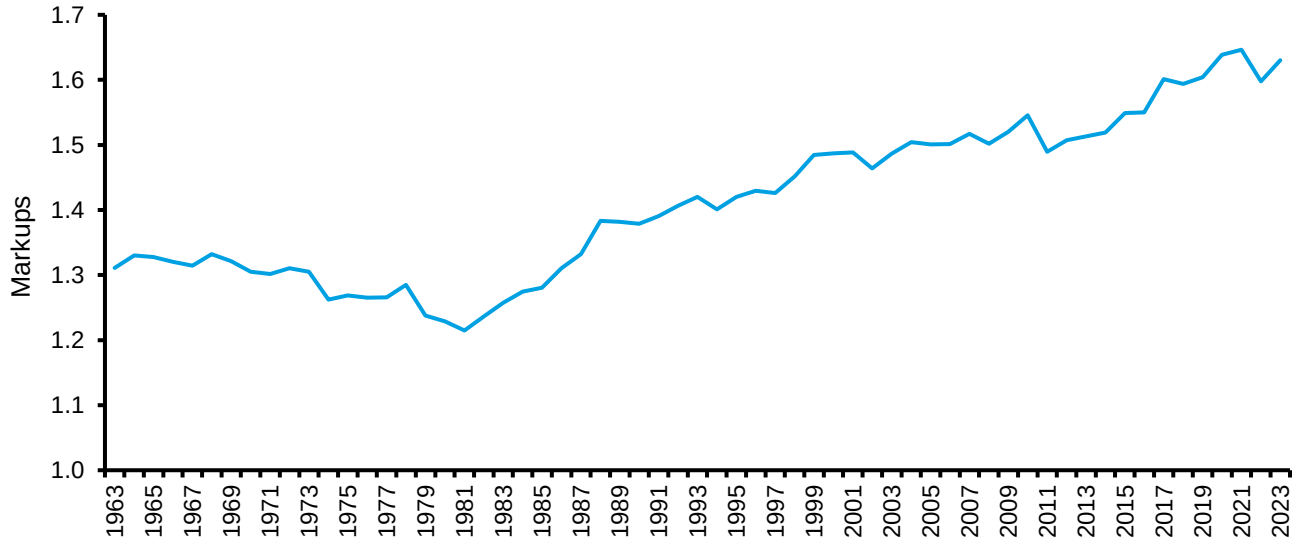
Markups. A markup describes a price above marginal cost (as depicted in exhibit 8).[202] There has been concern among some economists and policy makers that markups have risen sharply in recent decades, an indication of rising market power.[203] One method economists use to estimate markups is to look at the relationship between sales (output) and cost of goods sold (input).[204]

Below we show trends with markups for public U.S. companies from 1963 to 2023. Like our analysis of ROIC, this is based on the companies that have been listed on the major U.S. stock exchanges and it excludes ADRs and finance companies. The main difference here is we use Compustat data (based on fiscal years) for the entire period to maintain a consistent treatment of COGS.[205]

In addition, to limit the effect of extreme outliers, we set a minimum level for some accounting items and trim the data. Specifically, we require minimum sales, COGS, SG&A, and R&D of 0.1 million in 2023 USD and remove companies that have unadjusted markups in the 1st and 99th percentiles. We calculate an aggregate markup by weighting companies based on sales.

Exhibit 45 shows aggregate markups for U.S. companies without any adjustment for intangible investments. The level starts at about 1.3 in 1963, drifts lower to 1.2 in 1981, and then rises steadily to just over 1.6 in 2023.

Exhibit 45: Markups Without Intangible Adjustments for U.S. Companies, 1963-2023

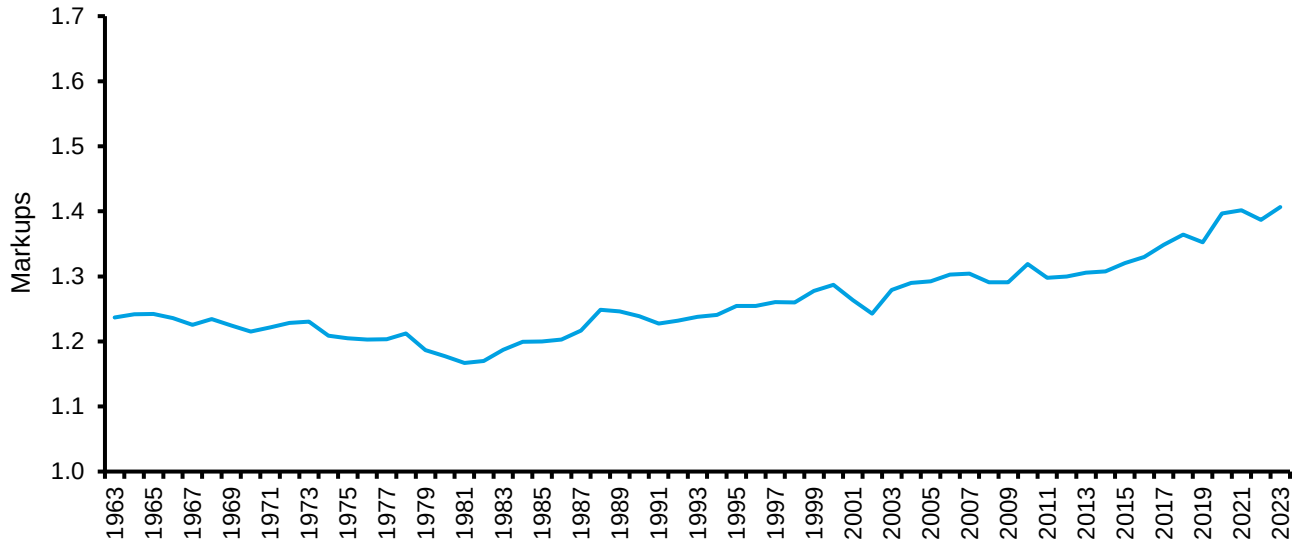


Source: Counterpoint Global, Compustat, and FactSet.

Academics have shown that calculating markups and ROIC without considering internal intangible investments can distort the overall picture.[206] Exhibit 46 shows the calculation of markups for the same population and period but after considering intangible investments (an input). The pattern is the same as the unadjusted calculation, but the levels are notably lower. The adjusted markups are just over 1.2 in 1963, trough at just under 1.2 in 1981, and climb to 1.4 in 2023.

Strategy is putting a company in a position to earn an attractive ROIC for a long time.[207] But the rise of intangibles has made measuring ROIC, economic profit, and markups more difficult. A recognition of the nature of investment means going beyond traditional financial statement analysis to gain a true grasp of economic returns.

Exhibit 46: Markups With Intangible Adjustments for U.S. Companies, 1963-2023



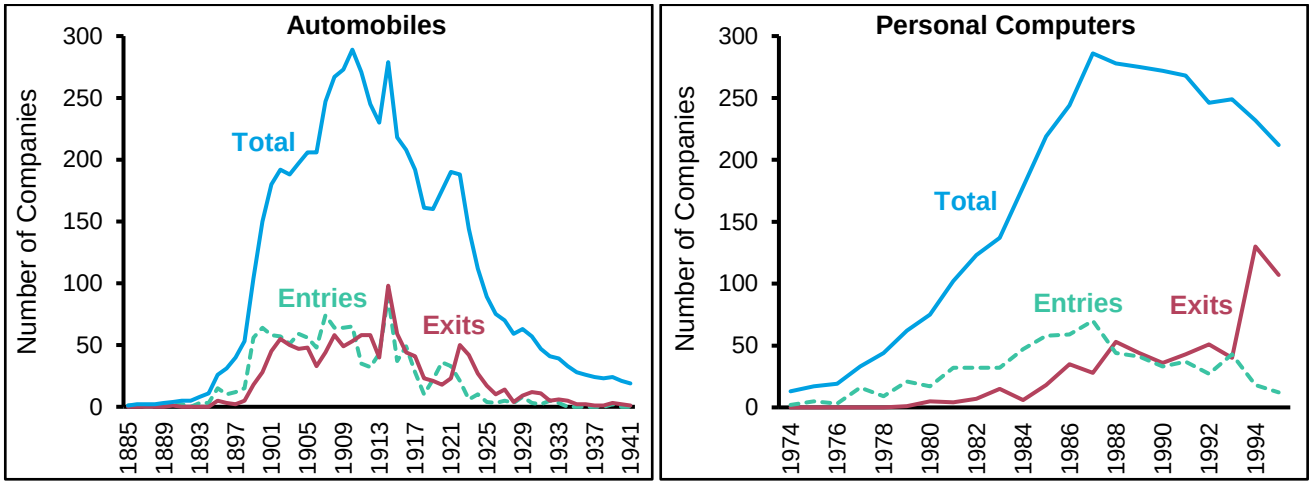
Source: Counterpoint Global, Compustat, and FactSet.

Appendix B: Patterns in Industry Development[208]

New industries tend to follow a similar pattern in their development. Early phases include lots of experimentation in an attempt to provide a product or service that the market wants. These product innovations come from new companies entering the industry seeking a toehold to build on.

The market eventually gravitates toward the products that meet the needs of the industry. Companies pursing tacks the market has dismissed then exit the industry, either by shutting down or selling themselves. This pattern of boom and bust is called the product life cycle. Exhibit 47 shows this pattern for the automobile and personal computer industries.

Exhibit 47: Entry, Exit, and Total Companies in the U.S. Automobile and PC Industries



Source: Autos: Wikipedia contributors, "List of defunct automobile manufacturers of the United States," Wikipedia, The Free Encyclopedia*, https://en.wikipedia.org/w/index.php?title=List_of_defunct_automobile_manufacturers_of_the_United_States&oldid=1087965710 and Wikipedia contributors, "List of automobile manufacturers of the United States," Wikipedia, The Free Encyclopedia, https://en.wikipedia.org/w/index.php?title=List_of_automobile_manufacturers_of_the_United_States&oldid=1088463190; PCs: Mariana Mazzucato, "The PC Industry: New Economy or Early Life-Cycle?"* Review of Economic Dynamics*, Vol. 5, No. 2, April 2002, 318-345; Counterpoint Global.*

Steven Klepper, an economist at Carnegie Mellon, was one of the foremost scholars on industry evolution. Klepper identified and described six regularities in this evolutionary process:[209]

1. After an industry is born, the common pattern is for the number of entrants to rise and then fall. The total number of competitors is small at the end of the process.[210]
2. Industry output grows even as the number of producers falls from the peak. This means that fewer companies share a larger market.
3. The market shares of the competitors are initially volatile but eventually stabilize.[211]
4. The diversity of versions of competing products is related to the growth of entrants. The number of innovations peaks in the growth phase and falls thereafter.
5. Product innovation is the focus early in the cycle. Process innovation is the focus late in the cycle.
6. Most product innovations come from new entrants when the number of entrants is on the upswing.

Klepper and Michael Gort, an economist, looked at how these regularities applied to almost four dozen industries. They found that the regularities, including the growth in net entry in the early stages, low to zero net entry near the peak of competition, and negative net entry late in the cycle, helped explain the development of nearly all of the industries.[212]

James Utterback, an emeritus professor of management at MIT, describes three phases of this recurring pattern in his book, *Mastering the Dynamics of Innovation*.[213] The first is what he calls the "fluid" phase, where companies experiment with product design and tinker with potential business models. The emphasis is on the performance of the various competing products, and which technology will emerge as a winner is unclear. Entrepreneurs tend to lead these companies.

Second is the "transitional" phase. This occurs after the market selects a product design. Companies shift their emphasis from product to process innovation. Complementary assets are also important because new companies are also part of a business ecosystem. For example, automobiles need roads, parking lots, gas or charging stations, and mechanics.

Finally, there is the "specific" phase where the pace of product and process innovation is slow. Most competitors have high operational effectiveness as best practices have diffused throughout the industry. Companies here may be susceptible to disruptive innovation, where new business models, a form of process innovation, allow entrants to compete for specific segments of the market.[214]

Endnotes

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[2] The sustainability of excess returns goes by a few names, including the fade rate, competitive advantage period (CAP), value growth duration, and "T." See Bartley J. Madden, *CFROI Valuation: A Total System Approach to Valuing the Firm* (New York: Butterworth-Heinemann, 1999); Michael Mauboussin and Paul Johnson, "Competitive Advantage Period (CAP): The Neglected Value Driver," *Financial Management*, Vol. 26, No. 2, Summer 1997, 67-74; Alfred Rappaport, *Creating Shareholder Value: A Guide for Managers and Investors – Revised and Updated* (New York: Free Press, 1998); William E. Fruhan, Jr., *Financial Strategy: Studies in the Creation, Transfer, and Destruction of Shareholder Value* (Homewood, Il.: Richard D. Irwin, Inc., 1979); and Merton H. Miller and Franco Modigliani, "Dividend Policy, Growth, and the Valuation of Shares," *The Journal of Business,* Vol. 34, No. 4, October 1961, 411-433.
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[15] Frank Olito, "The Rise and Fall of Blockbuster," *Business Insider*, August 20, 2020.
[16] Adelina Gschwandtner and Michael Hauser, "Profit Persistence and Stock Returns," *Applied Economics*, Vol. 48, No. 37, February 2016, 3538-3549.
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[18] Warren E. Buffett, "Letter to Shareholders," *Berkshire Hathaway Annual Report*, 2005.
[19] "The Morningstar Economic Moat Rating," *Morningstar.com*, January 18, 2024.
[20] The academic strategy literature can be roughly broken into two camps: the industrial organization (IO) approach and the resource-based view (RBV). Leading proponents for each group are Michael Porter, a professor at Harvard Business School, for IO and Jay Barney, a professor at the University of Utah, for RBV. Simplistically, IO focuses on the industry and positioning within the industry. RBV seeks to understand the resources a company has that are rare and hard to imitate. These camps are not mutually exclusive and our discussion will cover both.
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[202] The Lerner Index, developed by the economist Abraham Lerner, is a measure of market power via markup. The Lerner Index = (Price – Marginal Cost) ÷ Price. For example, if the price is $125 and the marginal cost is $100, the Lerner Index is 0.20 ($125 – $100) ÷ $125.
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[204] For more on how we calculate markups and markups that are adjusted for intangible investments, see Michael J. Mauboussin and Dan Callahan, "Market Share: Understanding Competitive Advantage Through Market Power," *Consilient Observer: Counterpoint Global Insights*, September 15, 2022.
[205] To maintain consistency, we used Compustat data for the entire period due to their unique approach to calculating COGS. This also better aligns our results with popular studies on markups that rely on Compustat data. Compustat typically deducts depreciation from COGS, which makes COGS lower and markups therefore higher. One study estimates that the COGS presented by Compustat are on average 7.5 percent lower than that reported by companies in their financial statements. See Eric D. Bostwick, Sherwood Lane Lambert, and Joseph G. Donelan, "A Wrench in the COGS: An Analysis of the Differences between Cost of Goods Sold as Reported in Compustat and in the Financial Statements," *Accounting Horizons*, Vol. 30, No. 2, June 2016, 177-193.
[206] Ayyagari, Demirguc-Kunt, and Maksimovic, "The Rise of Star Firms: Intangible Capital and Competition."
[207] Benjamin Maury, "Sustainable Competitive Advantage and Profitability Persistence: Sources versus Outcomes for Assessing Advantage," *Journal of Business Research*, Vol. 84, March 2018, 100-113.
[208] This appendix is drawn from our report, "New Business Boom and Bust: How Capitalism Experiments," *Consilient Observer: Counterpoint Global Insights*, June 15, 2022.
[209] Steven Klepper, "Entry, Exit, Growth, and Innovation over the Product Life Cycle," *American Economic Review*, Vol. 86, No. 3, June 1996, 562-583. For related work, see Steven Klepper and Elizabeth Graddy, "The Evolution of New Industries and the Determinants of Market Structure," *RAND Journal of Economics*, Vol. 21, No. 1, Spring, 1990, 27-44; Steven Klepper, "The Capabilities of New Firms and the Evolution of the U.S. Automobile Industry," *Industrial and Corporate Change*, Vol. 11, No. 4, August 2002, 645-666; Rajshree Agarwal and Michael Gort, "The Evolution of Markets and Entry, Exit and Survival of Firms," *Review of Economics and Statistics,* Vol. 78, No. 3, August 1996, 489-498; Steven Klepper, *Experimental Capitalism: The Nanoeconomics of American High-Tech Industries* (Princeton, NJ: Princeton University Press, 2016); Timothy Dunne, Mark J. Roberts, and Larry Samuelson, "Patterns of Firm Entry and Exit in U.S. Manufacturing Industries," *RAND Journal of Economics*, Vol. 19, No. 4, Winter 1988, 495-515; Harry Bloch, "Innovation and the Evolution of Industry Structure," *International Journal of the Economics of Business,* Vol. 25, No. 1, February 2018, 73-83; and Paolo Calvosa, "Entry, Exit and Innovation Over the Industry Life Cycle in Converging Sectors: An Analysis of the Smartphone Industry," *International Journal of Business and Management*, Vol. 15, No. 12, 2020, 151-168.
[210] Sometimes the industry starts with lots of companies.
[211] For a good illustration of this regularity for the U.S. automobile industry, see Mariana Mazzucato, *Firm Size, Innovation and Market Structure: The Evolution of Industry Concentration and Instability* (Cheltenham, UK: Edward Elgar Publishing, 2000), 28-29.
[212] Gort and Klepper, "Time Paths in the Diffusion of Product Innovations."
[213] James M. Utterback, *Mastering the Dynamics of Innovation: How Companies Can Seize Opportunities in the Face of Technological Change* (Boston, MA: Harvard Business School Press, 1994), 92-97 and William J. Abernathy and James M. Utterback, "Patterns of Industrial Innovation," *Technology Review*, Vol. 80, No. 7, June/July 1978, 40-47.
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