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Counterpoint Global Insights

Capital Allocation

Results, Analysis, and Assessment

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Introduction

The primary job of senior management is to create value over the long term. This entails taking inputs, including capital and labor, and making them worth more than their cost over time. Capital allocation, which describes how a company raises and spends money, plays a central role in value creation. Successful capital allocation creates lasting value for all stakeholders and can achieve other goals as well.[1] But management's ultimate focus should be on increasing long-term value per share.[2]

Creating value ought to be an imperative for at least two reasons. The first is competition. A firm that does a poor job of managing its resources will lose in the marketplace to a company that is managed better. The second is consideration of the opportunity cost of capital. Companies have to explicitly acknowledge that all capital has an opportunity cost, the rate of return they could earn on the next best alternative. Capital that fails to earn the cost of capital over the long term destroys value and imperils a company's prospects for prosperity.

Even though capital allocation is the most important responsibility of the chief executive officer (CEO), not all know how to do it well. This is in large part because the skills that enable someone to become a CEO may not be the same as those that make that person effective at overseeing how capital is raised, managed, and disbursed. Indeed, new CEOs commonly have the same functional background as the outgoing ones, and the experience of most CEOs is in general management.[3]

Warren Buffett, chairman and CEO of Berkshire Hathaway, the multinational conglomerate, gets to the point: "Once they become CEOs, they face new responsibilities. They now must make capital allocation decisions, a critical job that they may have never tackled and that is not easily mastered."[4]

This report is an update of one from December 2022. We extend most of the analysis back to 1970, update the data through 2024, and discuss results for the first half of 2025 where practicable. These data include capital allocation, return on invested capital (ROIC), and other relevant financial results.

Table of Contents

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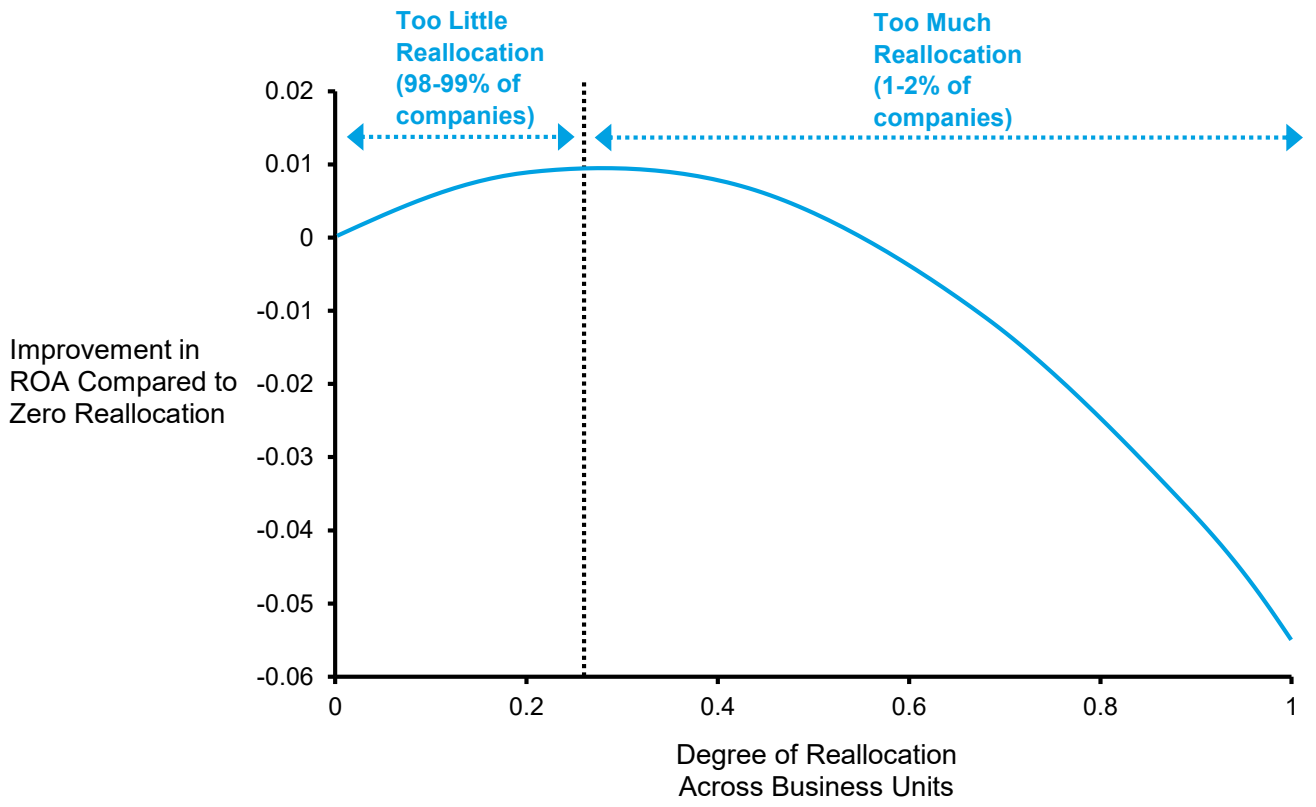
Introduction

Capital allocation is dynamic and there is evidence that companies can be better at it than they are. For example, scholars measured how much capital companies reallocated from one business unit to another, with zero indicating that capital spending across divisions was the same as in the prior year and one reflecting complete reallocation. They then compared the degree of reallocation to the improvement in return on assets, a measure of corporate performance (see exhibit 1). In theory, a company should put capital to its best and highest use without consideration for how it spent money in the past.

Changes in the competitive landscape and in the prospects of the business units suggest that some reallocation is appropriate. The researchers in fact found an optimal degree of reallocation. But they also discovered that only 38 of the 5,760 observations, or less than 1 percent, were above that threshold. In other words, the vast majority of companies could improve their financial performance by increasing their reallocation.[5]

This behavior is consistent with status quo bias, which suggests that people tend to continue doing what they are doing even in the presence of preferable alternatives.[6] It is also compatible with the escalation of commitment, the idea that we would rather escalate a commitment to a prior action than change course.[7]

Exhibit 1: Capital Reallocation and Incremental Return on Assets



Source: Counterpoint Global based on Dan Lovallo, Alexander L. Brown, David J. Teece, David Bardolet, "Resource Re-Allocation Capabilities in Internal Capital Markets: The Value of Overcoming Inertia," Strategic Management Journal*, Vol. 41, No. 8, August 2020, 1373.*

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There are a handful of factors that keep management teams from allocating capital as well as they could. The first, simply, is that they do not have a clear and correct process for doing so. Capital allocation is ultimately about assessing opportunities and executing on the ones that are attractive. As such, it requires a willingness to be a buyer or a seller given the circumstances. This necessitates some dispassion and analytical agility.

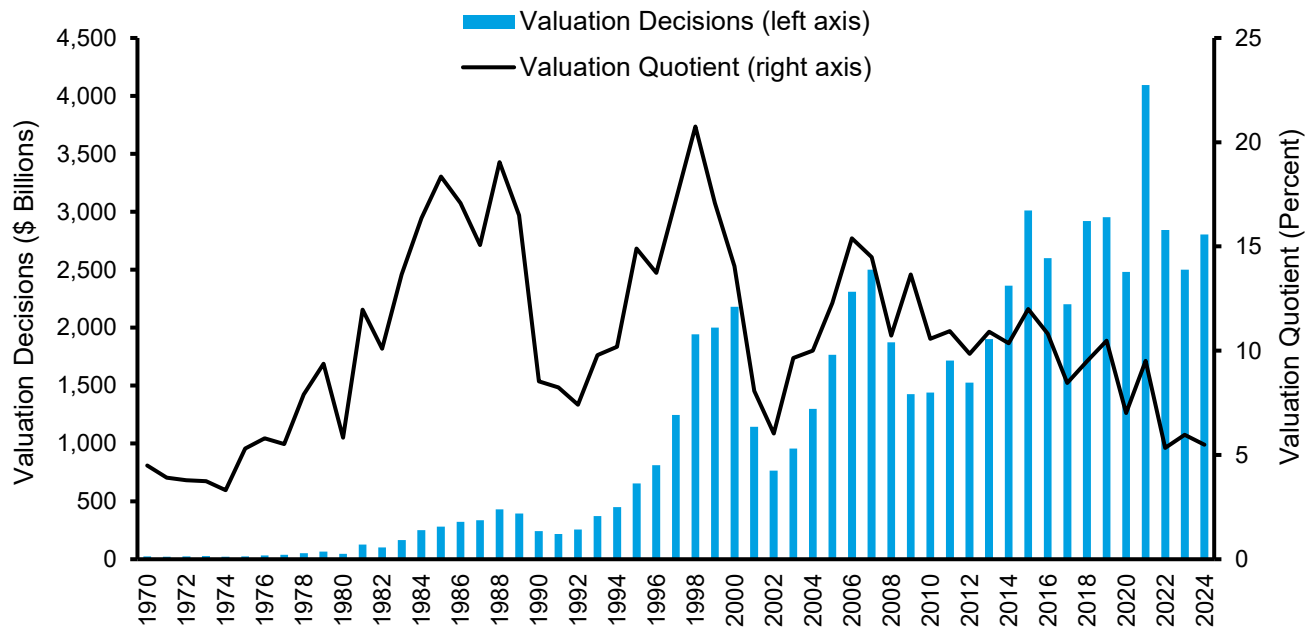
The answer to nearly every capital allocation question is, "it depends." Buying back stock at one price may be a great way to add value per share for ongoing holders whereas selling it at another price may be desirable.[8] A strategic acquisition will add to an acquirer's value at a certain price but destroy value at a higher one. And divestitures, which many executives find less compelling than acquisitions, can be beneficial for shareholders.

Valuation is the tie that binds these decisions. The valuation quotient divides a company's decisions that rely on valuation by its market capitalization. This measures how important valuation is to overall shareholder value.[9]

Exhibit 2 shows that the valuation quotient for U.S. companies averaged 10 percent from 1970 through 2024. The valuation decisions we consider in the numerator include the proceeds from issuance of common and preferred stock, total mergers and acquisitions (M&A) including divestitures, and cash paid for share buybacks. We divide the sum of these decisions by the market capitalization of U.S. stocks at the beginning of the year. For companies with high valuation quotients, valuation errors limit total shareholder returns (TSR), especially if they span multiple years and capital allocation decisions.

In a sense, executives should act like investment portfolio managers in that they allocate capital to opportunities that have the potential to earn excess returns and divest assets that are worth more to others. But capital allocation for executives is different than it is for investors in two ways that are meaningful.[10] Decisions by executives are often hard to reverse. For example, unwinding a large acquisition can be costly and time consuming. On the other hand, executives generally have some control over the outcomes for the investments they make. This is because they can shift resources, strategies, and tactics as necessary.

Exhibit 2: Valuation Quotient for U.S. Companies, 1970-2024



Source: Counterpoint Global; Compustat; FactSet; Alfred Rappaport and Michael J. Mauboussin, "Valuation Matters," Harvard Business Review*, Vol. 80, No. 3, March 2002, 24-25.*

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Incentives are the second factor that impedes effective capital allocation. These generally reflect the costs that arise from the principal-agent problem. The goals of the owners of assets, the principals, and those in charge of managing the assets, the agents, can come into conflict. Shareholders are the principals and executives are the agents. For instance, there is a positive relationship between firm size and executive compensation. As a result, managers may have an incentive to grow through acquisitions even in cases where the deals add no value for shareholders. Further, executives may peg their compensation to financial or non-financial metrics that have no direct link to value creation. These actions create "agency costs" for shareholders.

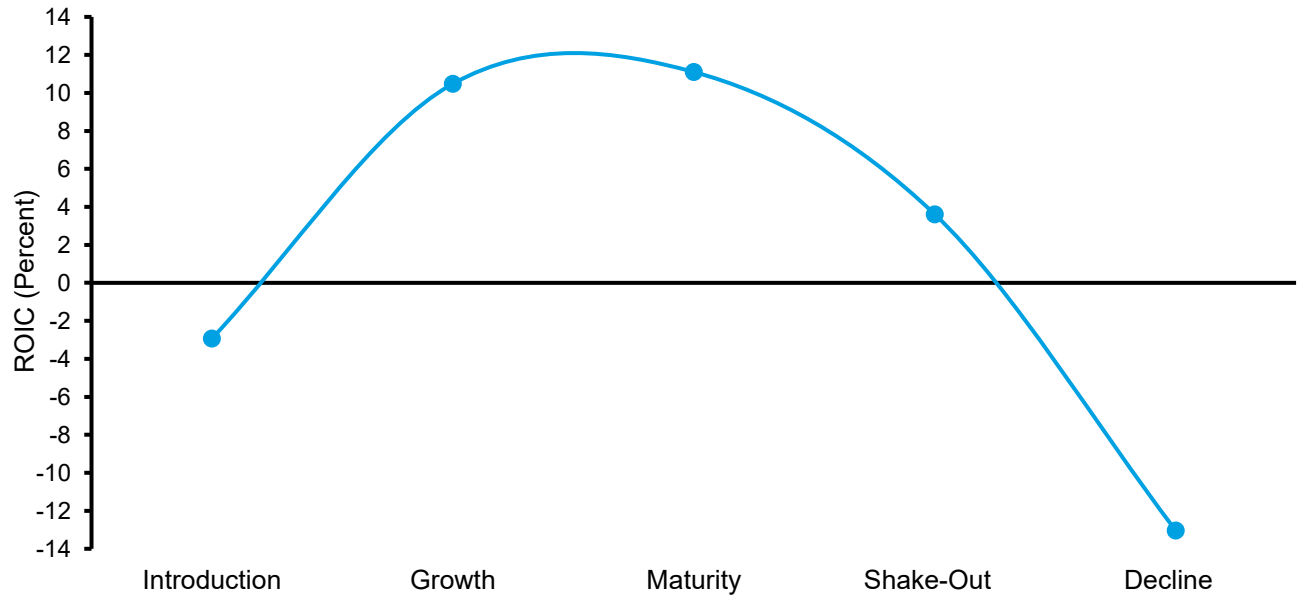
Finally, there is what Warren Buffett calls the "institutional imperative."[11] This says executives will "mindlessly" imitate one another in their practices, including compensation and capital allocation, and that junior people within a firm will be quick to come up with business justifications to support whatever the CEO wants to do.[12]

Morningstar, a financial services firm, provides a Capital Allocation Rating for roughly 1,850 public companies in the U.S. based on balance sheet strength, investment acumen, and appropriate distributions to shareholders. Of the companies rated as of September 2025, 16 percent score high enough in each area to be deemed exemplary, 78 percent are standard, and 5 percent rate low enough to be considered poor.[13]

Consideration of where a company is in its life cycle is important in assessing capital allocation. Many academics and practitioners depict the life cycle 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.

We observed that the average ROIC based on age does not produce the pattern associated with a life cycle of an inverted "U," in which ROIC starts low, reaches an apex, and then drifts lower. Instead, we found that patterns of profits and investment are a much better way to understand the life cycle (see exhibit 3). Note that we assumed companies are born on the date of their initial public offering.[14]

Exhibit 3: Return on Invested Capital in Stages of the Corporate Life Cycle



Source: Counterpoint Global; Compustat; FactSet.
Note: ROICs are based on aggregate amounts and adjusted for internally-generated intangible assets, 1970-2024.

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Our analysis is based on work by Victoria Dickinson, a professor of accounting at the University of Mississippi. Dickinson starts with research by Steven Klepper and Michael Gort, professors of economics, who developed an empirically-grounded life cycle framework based on five stages: introduction, growth, maturity, shake-out, and decline. She then added rigor to the classification by linking the stages to results within the statement of cash flows. Reflecting this pattern, investment in the business tends to be greatest toward the beginning of the life cycle and the proclivity to return capital to shareholders is higher toward the end.

This report has three parts. The first establishes the foundation by reviewing the sources of capital, alternatives for capital allocation, and how companies in the United States have allocated capital since 1970. We also look at growth and return on invested capital to understand why capital allocation remains an important consideration for executives and investors.

Next, we review each of the capital allocation alternatives in more detail. What is new in our work is the inclusion of intangible investments, which are undoubtedly important but inherently difficult to measure. We also draw on academic research to gain a synoptic view and, where appropriate, provide a framework for thinking about the prospects for value creation.

Finally, we offer some guidelines for assessing a company's capital allocation skills. These include examining how the firm has allocated capital in the past, measurement of return on invested capital, consideration of the role of incentives, and five core principles that should guide capital allocation.

Academic research has investigated the cumulative abnormal return (CAR) for stock prices associated with various capital allocation alternatives, including M&A, share buybacks, and dividend initiations.[15] The CAR calculation tries to isolate the impact of an announcement by removing changes associated with the stock market. Combining this work with specific research on other forms of capital allocation allows us to create a rough ranking of the stock market's assessment of potential value creation by activity. Note that these summary results do not consider the specific circumstances of each case. In other words, this analysis indicates what happens on average, and individual cases may have very different outcomes.

Spin-offs, divestitures, dividend initiations, share buybacks, debt prepayments, capital expenditures, and some intangible investments are associated with positive excess TSRs. Research and development (R&D) tends to be value-neutral, as is M&A for the buyer. And equity issuance, including initial public offerings and seasoned equity offerings, predicts negative excess returns on average.

Asset growth is a blunt tool that predicts abnormal returns. Specifically, companies with high asset growth earn lower TSRs than companies with low asset growth.[16] Asset contraction is associated with higher TSRs than asset expansion. This empirical observation has been built into multi-factor asset pricing models and is worthy of attention.[17] But asset growth is ultimately a poor proxy for investment and neglects the rise of investments in internally-generated intangible assets.[18] Changes in asset levels fueled either by equity issuance or retirement might explain the broad result.[19]

We now lay the foundation by reviewing the sources and uses of financial capital, how companies have spent that capital since 1970, and why capital allocation remains an important investment consideration.

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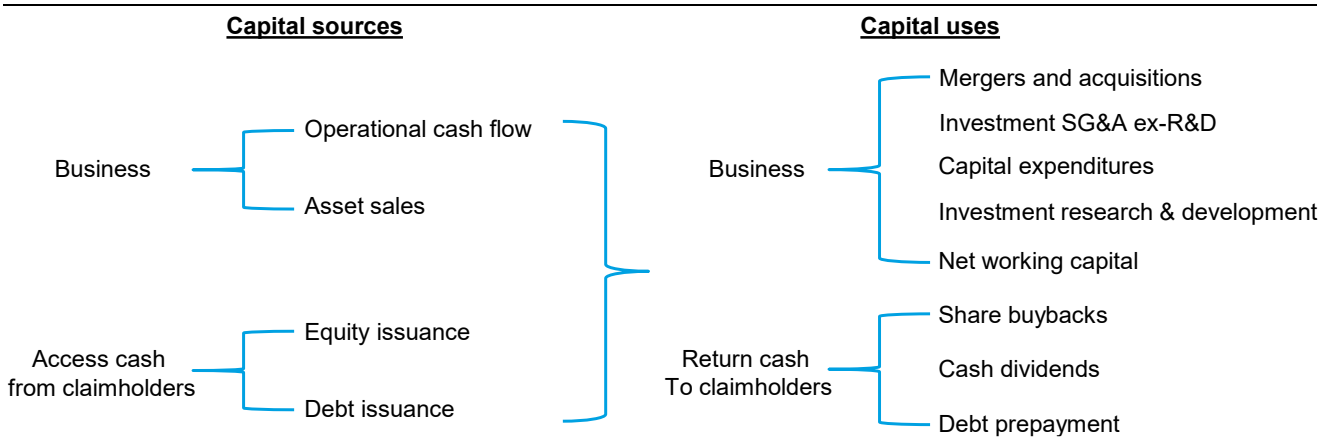
Foundation: Where the Money Comes From and Where It Goes

An assessment of capital allocation begins with an understanding of where capital comes from and how companies spend it (see exhibit 4).

Sources of Capital. The source of capital can be external or internal. External capital comes from the issuance of equity or debt (including leases). Startups and young companies commonly need to access external capital because they have to incur and cover costs before they can sell a good or service at sufficient scale to absorb those pre-production expenses. Stock-based compensation (SBC) is also a form of equity issuance.

Exhibit 4: Sources and Uses of Financial Capital



Source: Counterpoint Global.

One way to assess whether a company will require external capital is to compare its growth rate in net operating profit after taxes (NOPAT) to its return on invested capital (ROIC). Firms, young or old, that grow faster than their incremental ROICs need to access external capital. This is fine, indeed desirable, if the company's ROIC is in excess of the cost of capital.[20]

A classic example is Walmart, a global retailer, which grew faster than its ROIC in its first 15 years as a public company. The important point is that the company created a lot of value because its ROICs were well above its cost of capital. Even though Walmart required external capital to support its growth, the stock delivered an annual total shareholder return of 33 percent during that period, three times that of the S&P 500.

Internal capital comes from the cash that the business generates. This includes cash flow from operations and asset sales, which are effectively trading a stream of future cash flows for a lump sum today. In cases where growth is below ROIC, the company will have funds available to return to shareholders or to add to the balance sheet.

Exhibit 5 shows the sources of capital for U.S. corporations since 1970. Internal financing has been the primary source. Companies have also added new debt steadily except for some years when the economy was in recession. This issuance is consistent with a stable capital structure.

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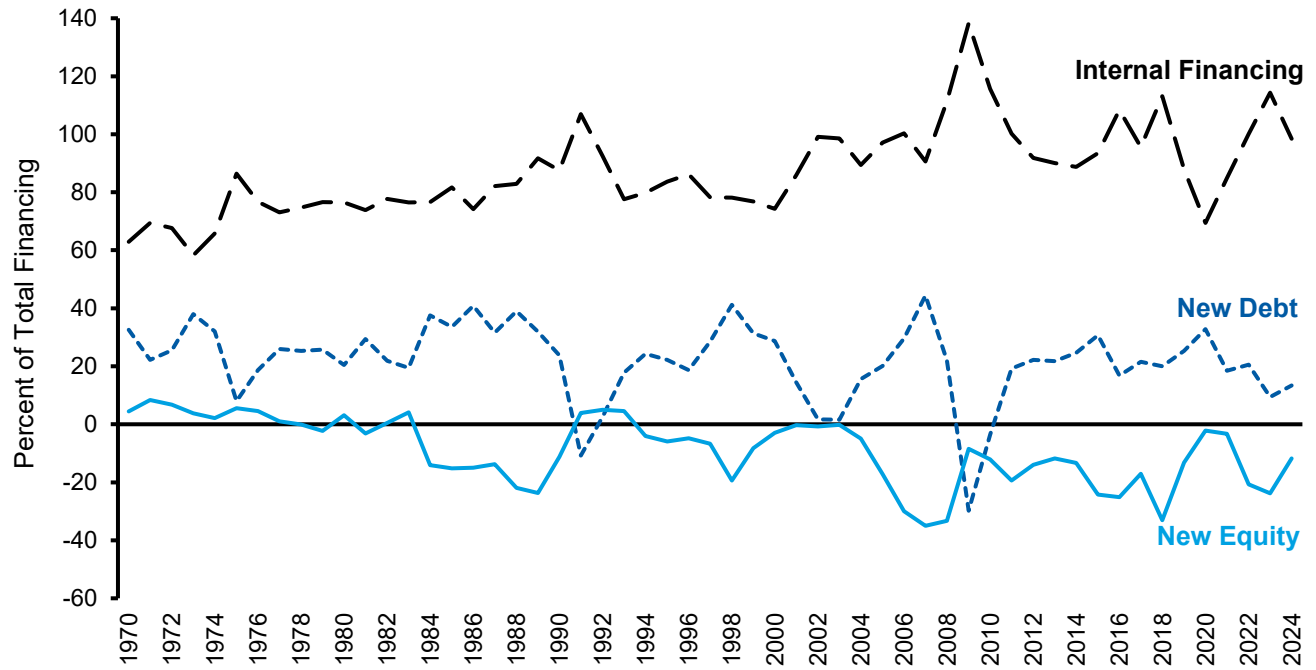
Exhibit 5: Sources of Capital, 1970-2024



Source: Counterpoint Global; Board of Governors of the Federal Reserve System, Division of Research and Statistics, Flow of Funds Accounts Table F.103.
Note: This analysis does not reflect equity issuance for compensation.

The exhibit also shows that companies have retired equity on average. Note that this analysis does not include equity issuance in the form of stock-based compensation. But net equity issuance is negative even after taking SBC expense into consideration.[21]

That internal financing funds a high percentage of investments can be viewed as a positive or a negative. The positive is that the ROIC for public companies in the U.S. is sufficiently high that there is little need to appeal to capital markets to finance growth. The negative is that firms can allocate funds from internal operations to investments that destroy shareholder value. Raising money from the capital markets allows for scrutiny of a company's spending plans. In fact, the evidence shows that healthy capital markets improve capital allocation.[22]

Peter Bernstein, the celebrated economist and financial historian, proposed a mental experiment in which companies disburse all of their earnings to their shareholders and then ask the markets for funds to invest. His thinking was that since markets are better at allocating capital than companies, overall capital allocation would improve as the result of this check.[23]

The debt-to-total capital ratio is a measure of capital structure, or how companies finance their operations. Exhibit 6 shows this ratio from 1970 to 2024 for U.S. companies, excluding those in the financial sector. We define this as the book value of debt divided by the book value of debt plus the market value of equity. That ratio for 2024 was 15 percent versus the long-term average of 26 percent, and it continued to trend lower in the first half of 2025. Note that capital structures have become more conservative despite a general decline in interest rates during this period. For example, the yield on the 10-year U.S. Treasury note had an annual average of 7.5 percent in the 1970s compared to an average of 2.5 percent over the past 10 years.

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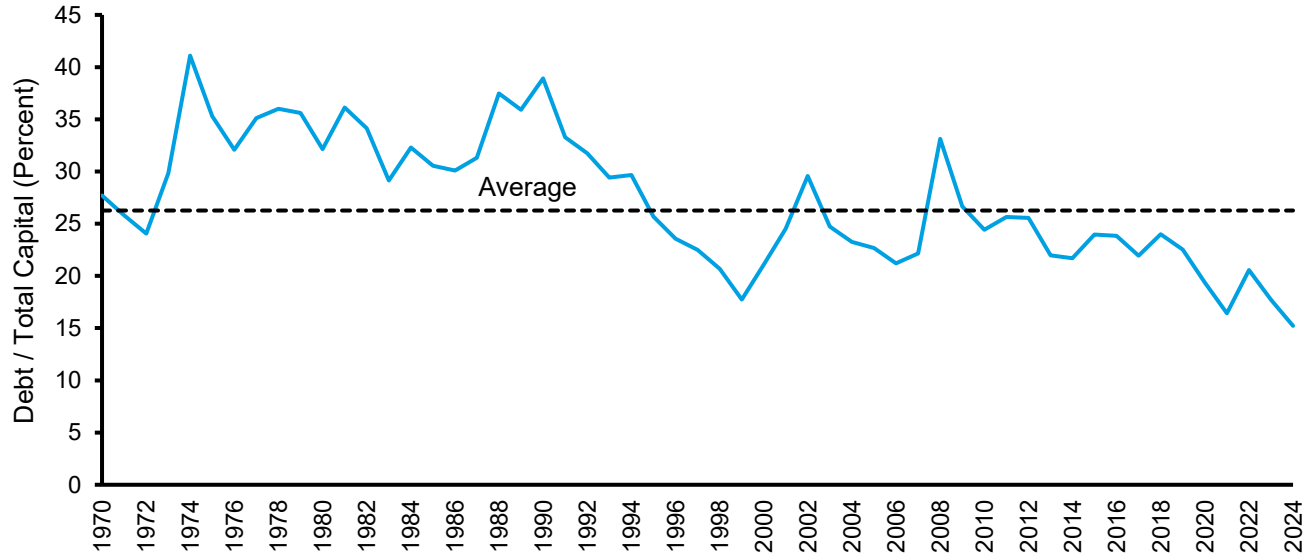
Exhibit 6: Debt-to-Total Capital Ratio, 1970-2024

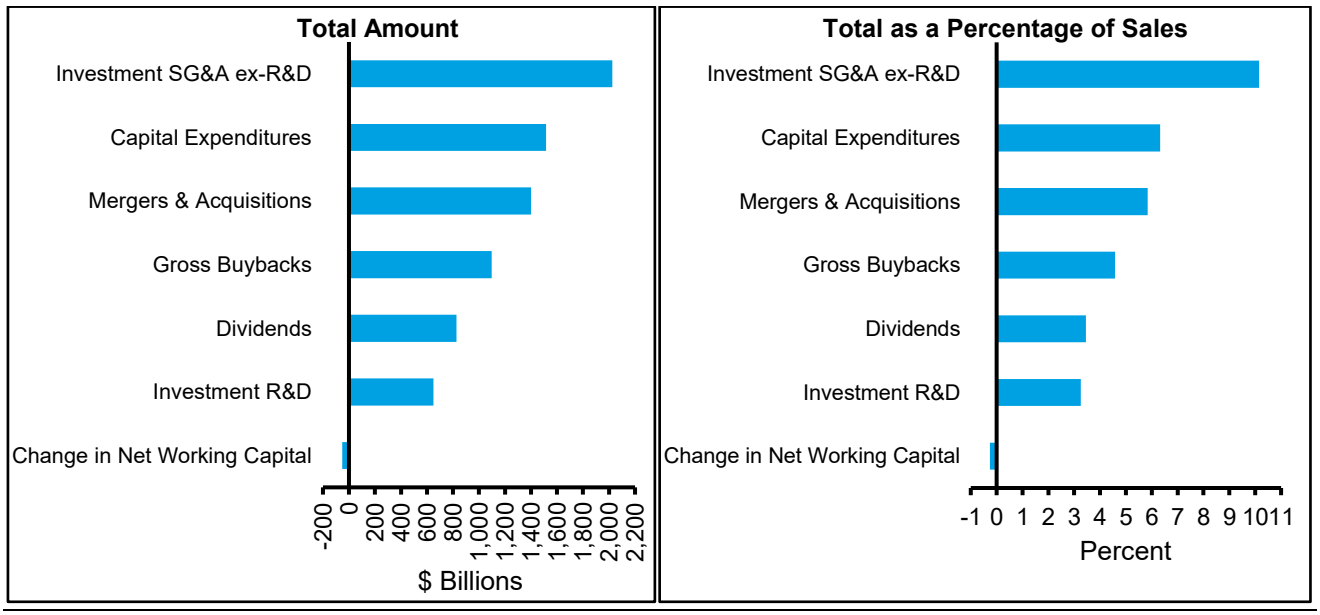


Source: Counterpoint Global; Compustat; FactSet.
Note: Based on aggregate amounts; U.S. companies ex-financials; Equals book debt / (book debt + market value of equity).

Uses of Capital. Companies can use capital either to invest in the business or to provide a return to claimholders. Internal investments in the business include capital expenditures, working capital, investment R&D, and investment SG&A ex-R&D (which is an intangible investment). Firms can also make external investments such as M&A. It is important to distinguish between investments that reflect discretionary cash outlays in pursuit of value-creating growth and spending required to maintain the current operations.[24]

Exhibit 7 shows how companies in the U.S. allocated capital in 2024, both in absolute dollar amounts and as a percentage of sales. Total spending was $7.5 trillion. Divestitures of $0.3 trillion are included in the M&A amount.

Exhibit 7: Capital Deployment, 2024



Source: Counterpoint Global; FactSet; LSEG.
Note: Financial companies excluded for investment SG&A ex-R&D, investment R&D, and change in net working capital; Based on calendar year; R&D=research and development; SG&A=selling, general, and administrative expense.

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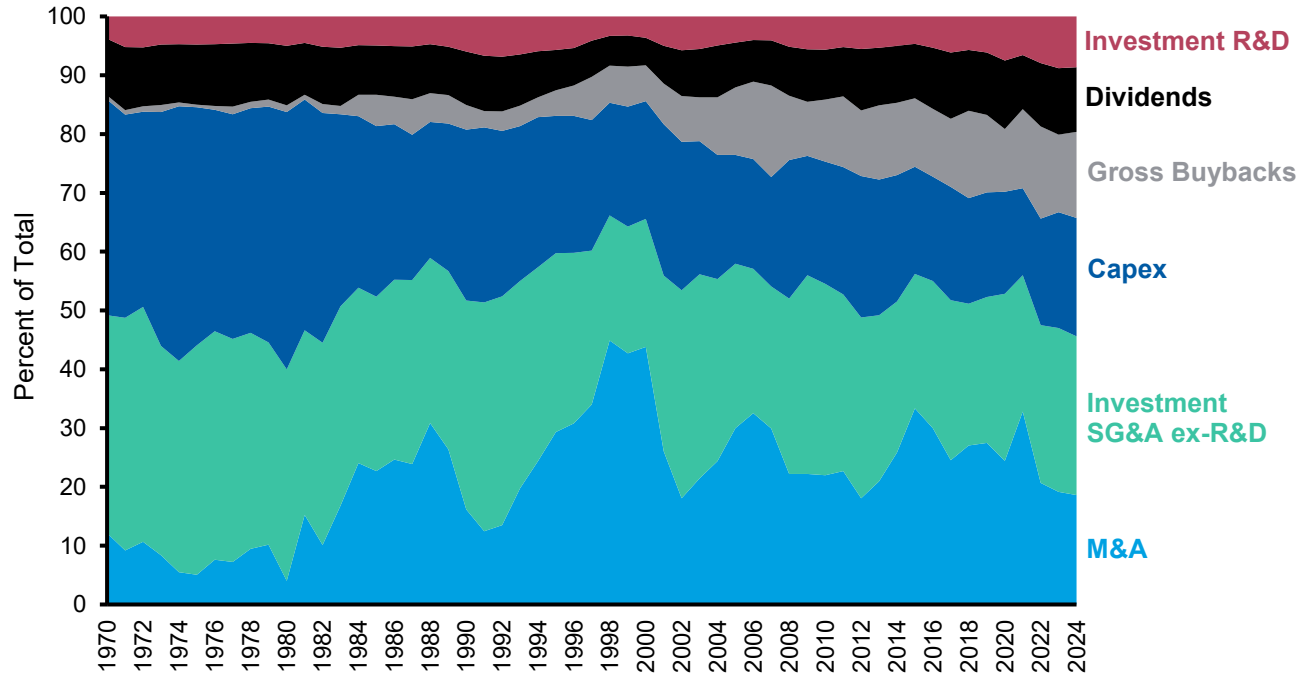
Exhibit 8 shows the spending by source since 1970. The data reveal some notable patterns:

- M&A consistently represents a large share of the capital that companies allocate. But M&A tends to be very cyclical, matching the ebbs and flows of the economy and the stock market. For example, M&A was as high as 20 percent of sales in 1998 during the dot-com boom and as low as 1 percent of sales in 1980 when the U.S. economy was in recession. The average was about 7 percent.
- Investment SG&A ex-R&D is internal spending that creates an intangible asset. Reflecting the steady increase in intangible investment across the economy, this item grew from 9.3 percent of sales in 1970 to a peak of 11.2 percent in 2020, before falling to 10.1 percent in 2024.[25] If we add investment R&D, total spending on intangible investment went from 10.2 to 13.4 percent of sales over the same span.
- Capital expenditures declined as a percentage of sales from 1970 through 2024, in line with the shift from tangible to intangible investment. Specifically, capital expenditures were 8.8 percent of sales in 1970, peaked at 9.4 percent in 1973, and drifted lower to a trough of 5.5 percent in 2009. Spending has since rebounded a bit and was 6.3 percent of sales in 2024. The reduction in capital expenditures also reflects a shift in sector composition for public companies in the U.S.
- Share buybacks did not exceed 0.3 percent of sales until after 1982, when a rule change made them more viable. (We discuss this in more detail in the section on buybacks.) They marched higher over the full period despite some periodic spikes and declines, with peaks of 5.5 percent of sales in both 2007 and 2018 before sliding to 4.6 percent in 2024. This reveals a substantial change in how companies return capital to shareholders. From 1970 to 2024, buybacks went from 0.1 times to 1.3 times dividends. Total payout yield, dividends plus buybacks divided by equity market capitalization, does a better job of explaining shareholder returns than either dividend or buyback yield alone.[26]

Exhibit 8: Capital Deployment, 1970-2024



Source: Counterpoint Global; Compustat; FactSet; Mergerstat; LSEG.
Note: Financial companies excluded for investment SG&A ex-R&D and investment R&D; R&D=research and development; SG&A=selling, general, and administrative expense.

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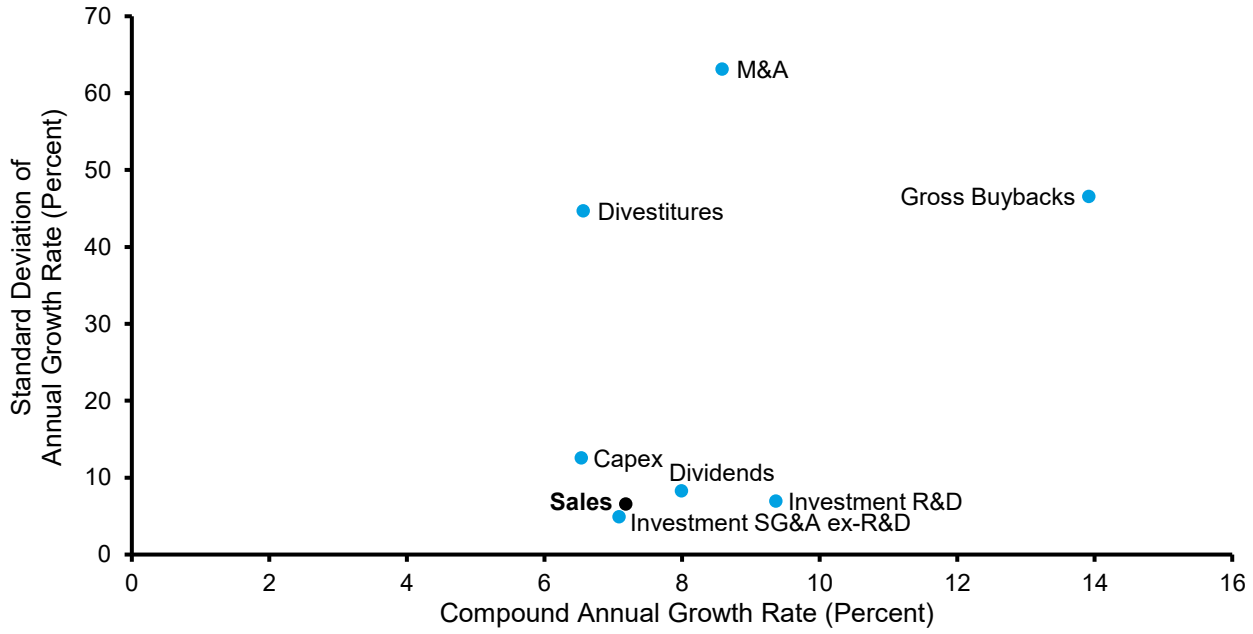
- The growth rate of each form of capital allocation varied over the period we measured. What is noteworthy is the standard deviation of the growth rate, or how much each spending item bounced around from one year to the next (see exhibit 9). For example, the standard deviation of the annual growth rate in M&A was roughly five times higher than that for capital expenditures, and share buybacks were nearly six times as volatile as dividends. While buybacks and dividends are arguably interchangeable, management teams commonly view buybacks as discretionary and dividends as sacrosanct.

Exhibit 9: Growth and Volatility of Uses of Capital, 1970-2024



Source: Counterpoint Global; Compustat; FactSet; LSEG.
Note: All companies for M&A, divestitures, capital expenditures, buybacks, and dividends; Ex-financials for investment SG&A ex-R&D and investment R&D; Divestitures begin in 1980; Net working capital is excluded due to some negative values; Divestitures are a source of cash; R&D=research and development; SG&A=selling, general, and administrative expense.

Exhibit 10 shows the shift in sector composition of the S&P 500, which tracks the market capitalization of 500 of the largest public companies in the U.S. These changes help explain why companies allocate capital differently today than they did decades ago. Information technology, healthcare, and communication services doubled as a share of the market over this period, from 26 percent in 1970 to 52 percent in 2024. At the same time, industrials, energy, and materials declined by more than half, from 30 to 13 percent of the index (see exhibit 11). The mix shift from tangible to intangible investments fits with this evolution in sector representation.

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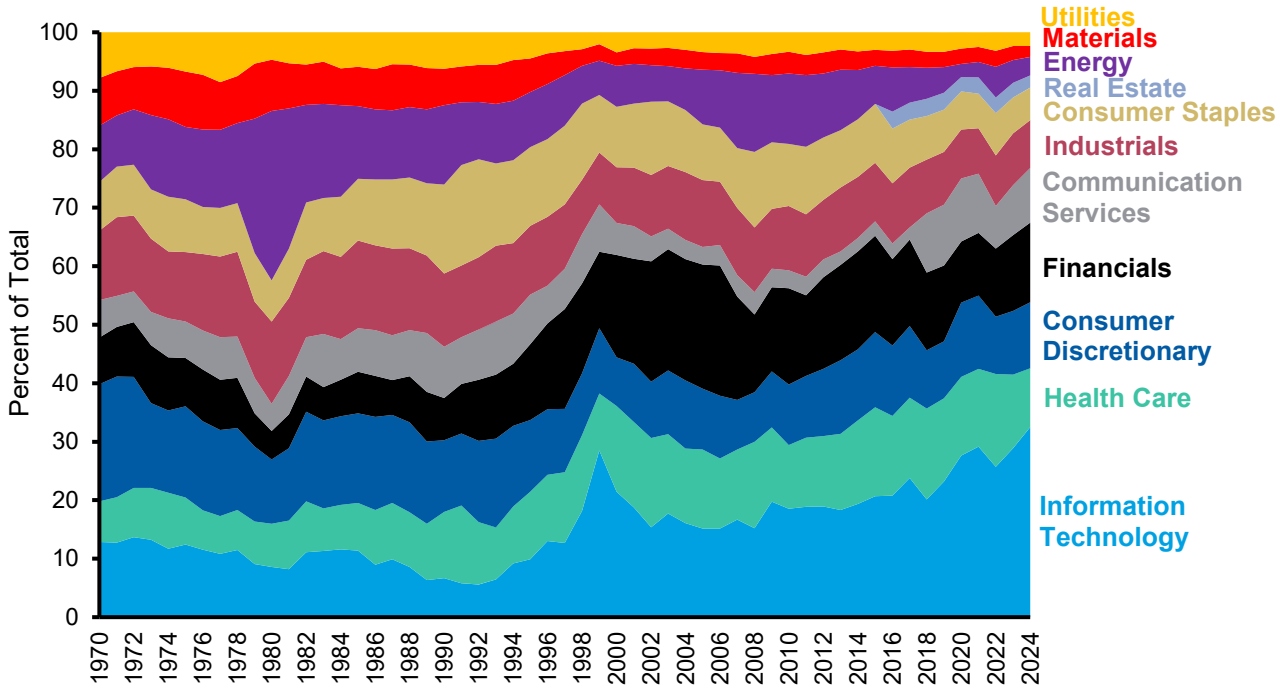
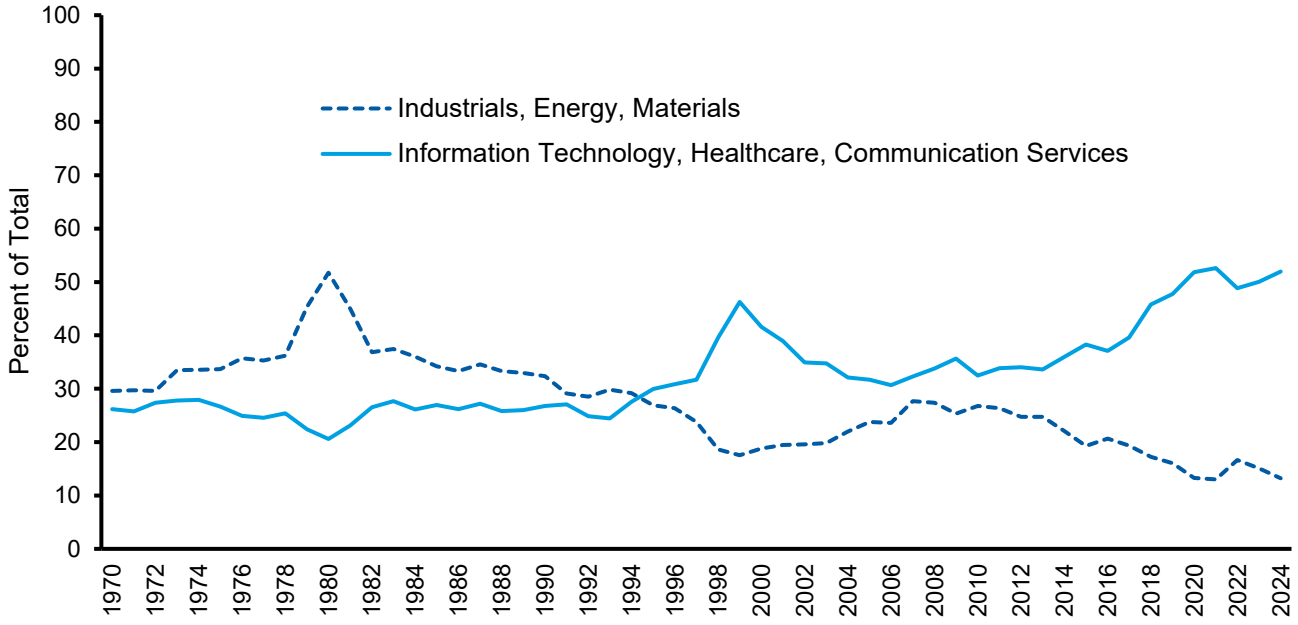
Exhibit 10: Sector Composition of the S&P 500, 1970-2024



Source: S&P Dow Jones Indices; Compustat; FactSet; Counterpoint Global estimates.
Note: Real estate sector separated from financials in 2016.

Exhibit 11: Shift Toward Intangible-Heavy Sectors in the S&P 500, 1970-2024



Source: S&P Dow Jones Indices; Compustat; FactSet; Counterpoint Global estimates.

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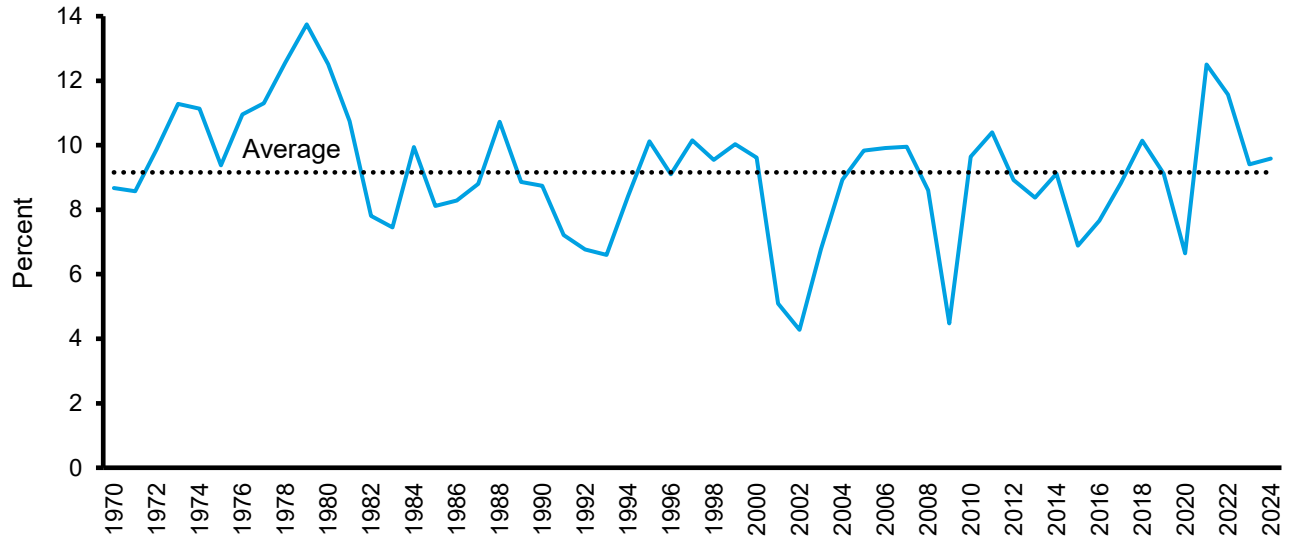
Recent Trends in ROIC and Growth in Invested Capital

Capital allocation is an important investment issue because the aggregate ROIC for public companies exceeds the aggregate growth rate. This means that public companies in the U.S. generate more cash than they invest. The average ROIC, adjusted for internally-generated intangible assets, was 9.2 percent from 1970 through 2024 (see exhibit 12). The average growth rate in NOPAT, also adjusted for intangible investment, was 7.9 percent.

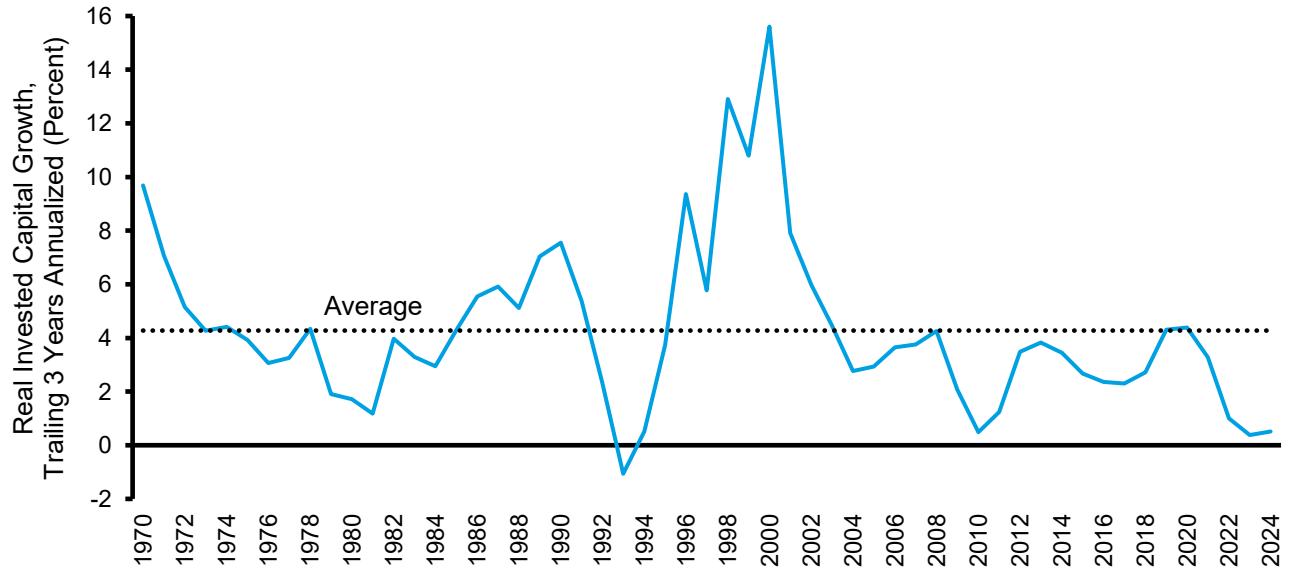
Exhibit 12: Aggregate Return on Invested Capital, 1970-2024



Source: Counterpoint Global; Compustat; FactSet.
Note: Invested capital reflects internally-generated intangible assets; Excludes financials.

Exhibit 13 shows that the average growth in invested capital, after adjusting for inflation, was 4.3 percent, based on the trailing 3-year annualized growth rate. Our definition of invested capital strips out excess cash. Aggregate investments, including buybacks and dividends, have grown at a 7.5 percent rate since 1970.

Exhibit 13: Real Annual Change in Invested Capital, 1970-2024



Source: Counterpoint Global; Compustat; FactSet.
Note: Invested capital reflects internally-generated intangible assets; Excludes financials.

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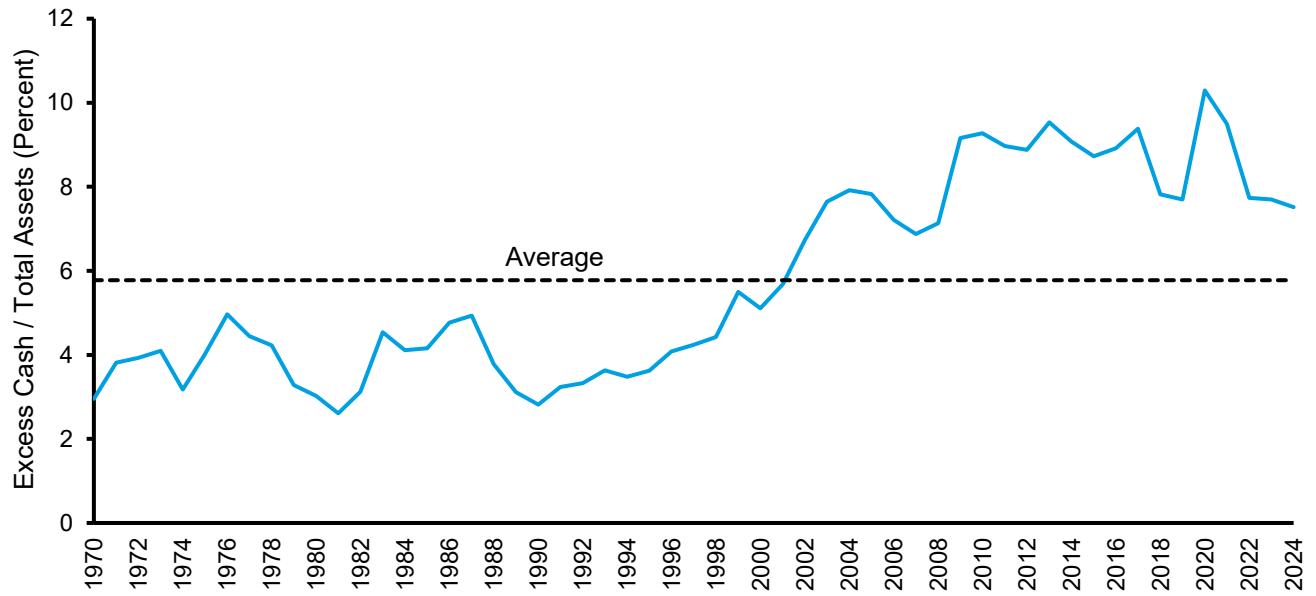
The combination of excess cash generation and the change in sector composition has led to higher balances of cash and short-term (ST) investments.[27] Exhibit 14 shows our estimate of excess cash and short-term investments as a percent of total assets for U.S. companies. The average was 5.8 percent from 1970 to 2024 and was 7.5 percent in 2024.

Exhibit 14: Excess Cash/Total Assets, 1970-2024



Source: Counterpoint Global; Compustat; FactSet.
Note: Reflects aggregate amounts; Excess cash assumes required cash balance of 2% of sales; Excludes financials.

A sizable percentage of this stash of excess cash and short-term investments is held by a handful of companies, including Apple, Alphabet, and Microsoft. As of year-end 2024, company reports show that one-quarter of the total was held by 10 companies, one-third by the top 21, and one-half by 67 firms.

Investors need to consider how these companies will deploy these excess funds. While this cash does not earn the opportunity cost of capital, it can provide a buffer against a challenging market for raising capital and may have option value in the case that attractive opportunities arise.

We now turn to each of the alternatives for capital allocation.

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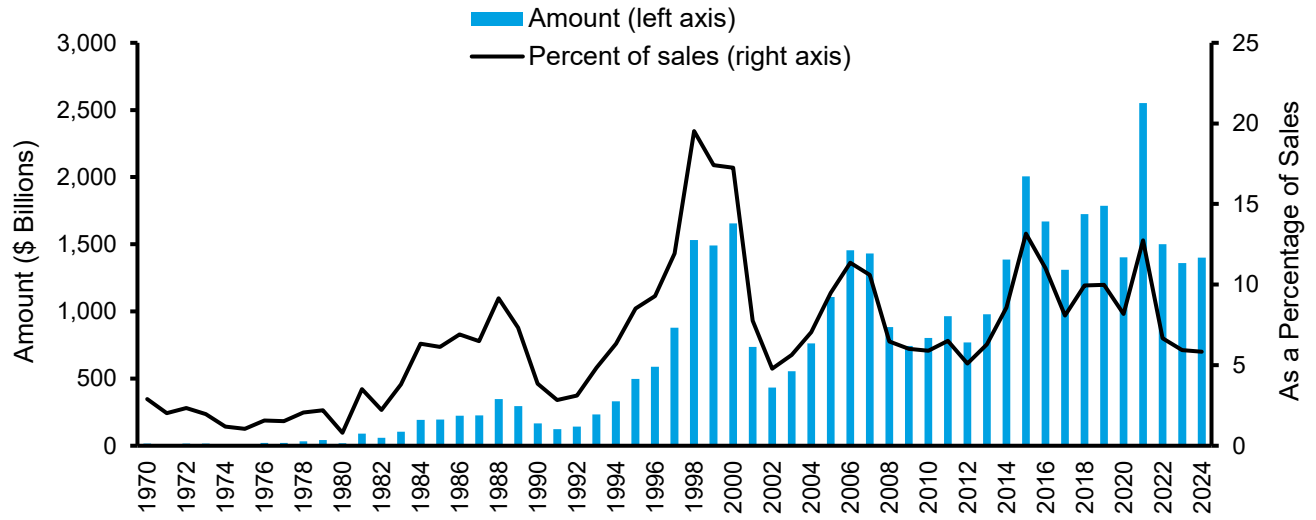
Capital Allocation Alternatives

Mergers and Acquisitions. M&A reflects one of the largest redistributions of corporate resources among the capital allocation alternatives. Exhibit 15 shows annual M&A volume in the U.S. from 1970 to 2024 as well as M&A as a percentage of sales. M&A deals in 2024 totaled $1.4 trillion, or 5.8 percent of sales, and were up 10.8 percent in the first half of 2025 versus the comparable period in the prior year. The chart shows that M&A tends to be cyclical. Early movers tend to do better than companies that buy later in the cycle.[28]

M&A also correlates with higher levels of stock prices and valuation.[29] For example, over the past 55 years the peak of M&A activity, measured as a percentage of sales, occurred during the market run-up in the late 1990s.

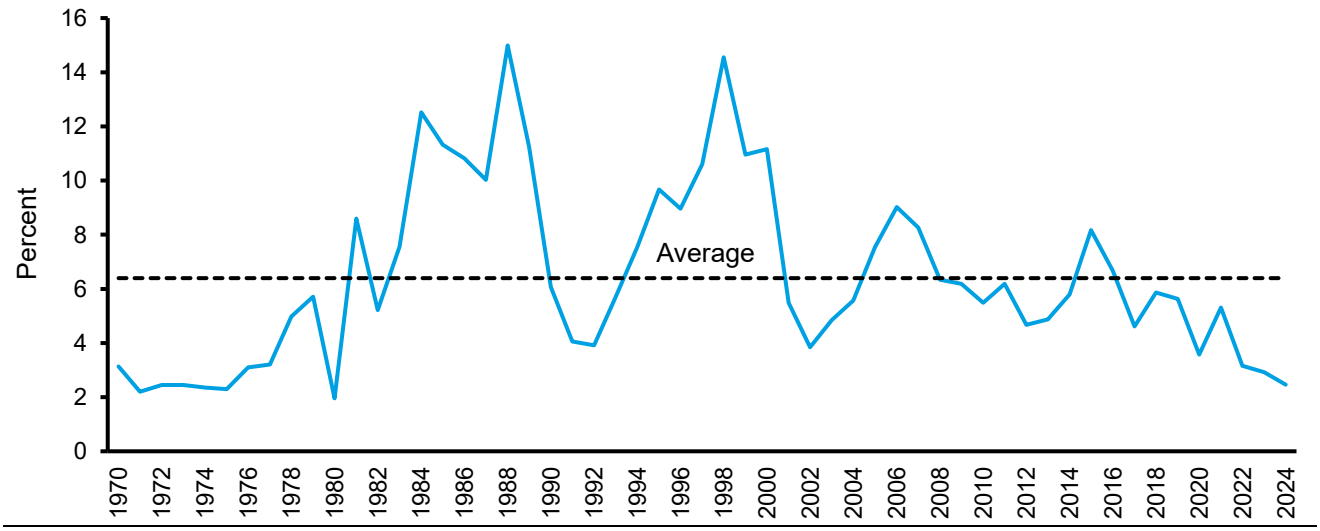
Exhibit 15: Mergers and Acquisitions, 1970-2024



Source: Counterpoint Global; Mergerstat; LSEG; Compustat; FactSet.

The prevalence of M&A means it affects nearly all companies directly or indirectly. For example, 9 in 10 public companies did at least one deal in the 1990s and 2000s.[30] Exhibit 16 shows annual M&A volume as a share of market capitalization from 1970 through 2024. It has averaged 6.4 percent and peaked at 15.0 percent in 1988.

Exhibit 16: M&A Volume as a Percentage of Market Capitalization, 1970-2024



Source: Counterpoint Global; Mergerstat; LSEG; Compustat; FactSet.
Note: Market capitalization is average of yearly beginning and ending values.

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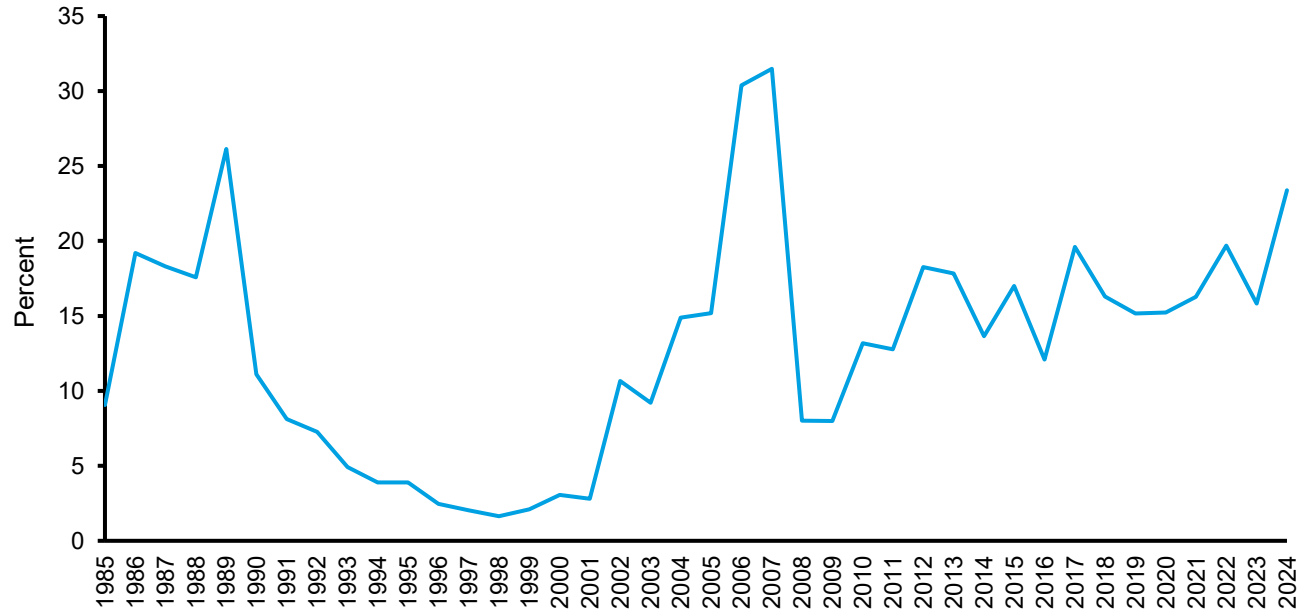
While our focus is capital allocation in public markets, buyouts by private equity firms play a noteworthy role in overall M&A activity. A buyout is a transaction where a financial sponsor purchases a company that has strong cash flows and finances the deal with a relatively high ratio of debt to equity. The buyer then seeks to improve operations and governance, pay down the debt, and sell the company at a profit.

Exhibit 17 shows private equity deals as a percentage of total M&A volume. The buyout industry had a wave of activity in the late 1980s that crashed in the early 1990s and recovered in the decade that followed. Activity grew sharply preceding the financial crisis of 2008, again dropped precipitously, and has grown steadily since. Private equity deals have averaged 15 percent of deal volume since 2000 and 13 percent since 1985. They peaked at 31 percent of volume in 2007 and troughed at 2 percent in 1998.

Exhibit 17: Private Equity as a Percentage of Total M&A Volume, 1985-2024



Source: Counterpoint Global; LSEG; FactSet; Michael Simkovic and Benjamin Kaminetzky, "Leveraged Buyout Bankruptcies, the Problem of Hindsight Bias, and the Credit Default Swap Solution," Columbia Business Law Review*, Vol. 2011, No. 1, 118, 2011,* Seton Hall Public Law Research Paper No. 1632084.

Companies generally attempt to do deals that strengthen their strategic position.[31] In fact, most deals have a sensible strategic rationale. But deals must also make financial sense to create value for the buyer. CEOs and boards often show hubris by bidding more than they should.[32] A transaction that makes strategic sense may be a poor capital allocation decision if the price is not right.

This is where Warren Buffett's institutional imperative comes in. Aspects of the institutional imperative include having subordinates who are willing to support whatever action a leader wants to take and the tendency for companies to imitate one another, including decisions related to M&A.[33]

Alfred Rappaport, a professor emeritus at the Kellogg School of Management, and Mark Sirower, partner in the M&A practice at Deloitte Consulting, describe why creating value in M&A deals is hard for buyers. The first reason is the risk of paying too much. Even smart strategic deals don't pay off if the premium is too large for the buyer to recoup its investment.

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Doing a deal provides a signal of strategic intent and requires effort. In some cases, competitors can recreate the benefits of a deal. They can also capitalize on the buyer's lack of focus as it integrates its target. A seller generally demands a large payment up front for uncertain future benefits, creating justifiable skepticism among investors. And unlike many other decisions, M&A deals are usually expensive to reverse.[34]

M&A creates value in the aggregate, measured by comparing the combined equity value of the buyer and seller before and after the deal. The problem is the value of the acquiring company's stock often goes down following the announcement of a transaction, reflecting a wealth transfer from the shareholders of the buyer to the shareholders of the seller. This is the result of the premium buyers pay to sellers to convince them to do a deal.

One study of 1,267 deals from 1995 to 2018 showed that the stock price of the buyer went down 60 percent of the time upon announcement and that the average change for the full sample was -1.6 percent.[35] These aggregates naturally hide a lot of variance. Plenty of transactions create value for the buyers.

The large body of research on M&A provides base rates that companies and investors can use to find appropriate reference classes. The results of these reference classes offer insight into which types of deals generally add value. Here are a few of those reference classes:

- Cash deals do better, on average, than deals funded with equity or a combination of cash and equity.[36] The basic idea is that management of the buyer will finance a deal with cash if it thinks the stock of its company is undervalued and will use stock if it thinks it is overvalued. Cash deals also provide a higher payoff for the shareholders of the buyer if the deal's economics are attractive.

- Deals between companies with similar operations generate healthier results than those that seek to transform the business.[37] With operational deals, the core businesses of the target and the acquirer are related. These are commonly called "bolt-on" deals. Danaher Corporation, a diversified conglomerate, is an example of a company that has executed this strategy effectively over the years.[38] Transformational deals seek to take a company in a radically new strategic direction. These tend to destroy value for the buyer at a rate substantially above the average. One case is when AOL, a web portal and online service provider, acquired the media company, Time Warner, for $182 billion in 2000.[39]

- Companies with specialized M&A teams generally outperform those without dedicated professionals.[40] These teams are made up of employees who spend the majority of their time analyzing the industry, competitors, customers, and possible targets. They also value targets and consider potential premiums to offer and synergies that may be reaped. A little over one-third of public companies in the U.S. have this type of staff and the deals these companies do are greeted with higher abnormal returns on average.

- Higher control premiums are associated with lower excess returns and lower premiums with higher returns.[41] A premium is how much the buyer is willing to pay above the target's fair value to own the business. It is usually measured as a percentage of the target's share price unaffected by merger speculation. Premiums tend to rise when the bid is hostile and the target has multiple potential bidders. Losers of contested deals have better subsequent stock price results, on average, than the winners.[42]

Evaluating capital allocation alternatives is tricky, and we will suggest a way to assess M&A in a moment. But it is worth noting that the accretion or dilution in earnings per share (EPS) after the deal is a point of emphasis for many stakeholders. A survey by Kearney, a consulting firm, showed that investor relations professionals perceive EPS accretion to be the metric that executives, sell-side analysts, and investors care about the most

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when gauging an M&A deal. Three-quarters of the respondents said that stakeholders place a “strong emphasis” on EPS, and only 2 percent reported that it received “no emphasis.”

The perceived importance of EPS accretion or dilution swamped the other metrics.[43] There is scant empirical foundation for this view. Careful studies show excess returns for the buyer’s stock is essentially independent of EPS changes.[44]

For example, we did a detailed analysis of 95 M&A deals announced in 2015 and 2016 that included management’s commentary about EPS accretion or dilution and the size of potential synergies. We then examined the abnormal return for the stock of the buyer following the announcement.

We placed each deal in a box based on a three-by-three grid. The columns captured the anticipated EPS effect (negative, neutral, positive) as articulated by management, and the rows reflected abnormal return (negative, neutral, positive). The most populated box in the grid, 45 of the 95 deals, was positive EPS and negative abnormal return. For these buyers, the earnings went up but the stocks went down.[45]

M&A, like other alternatives for capital allocation, is successful when the value the buyer realizes exceeds the price it pays. Mark Sirower suggests that buyers and investors use this formula:[46]

Net present value of the deal = present value of the synergies – premium

In a nutshell, this formula seeks to quantify whether a buyer is getting more than what it pays for. Note that companies increasingly disclose synergy estimates, which provide a basis to assess a deal.[47] Research shows that the synergy often fails to justify the pledged premium.[48] But the stock market’s initial reaction is more favorable when the present value of synergies exceeds the premium.[49] Let’s look at synergies and premiums.

The simple reality is that it is hard to realize synergies.[50] While it is possible to define various types of synergies, one simple breakdown is cost or revenue synergies.[51] Most synergies are based on operations, although buyers can capture financial synergies as well.[52] The market deems synergies more credible if management shares concrete figures that they explain effectively.[53]

Consistent with this, cost synergies are more reliable than revenue synergies.[54] Exhibit 18 shows the results of a survey by consultants at McKinsey who asked companies whether they achieved their targeted cost and revenue synergies. Thirty six percent of companies reported reaching or exceeding their anticipated cost synergies. Common reasons for coming up short are underestimating one-time costs and a failure to examine past deals to guide expectations.

But the results for revenue synergies were much worse. Only 17 percent of companies said they surpassed their revenue synergy forecasts. Sources of misplaced optimism include underestimating customer losses and unrealistic assumptions about market growth or target market share. It is hard to implement the processes necessary to realize sufficient synergies in M&A.[55]

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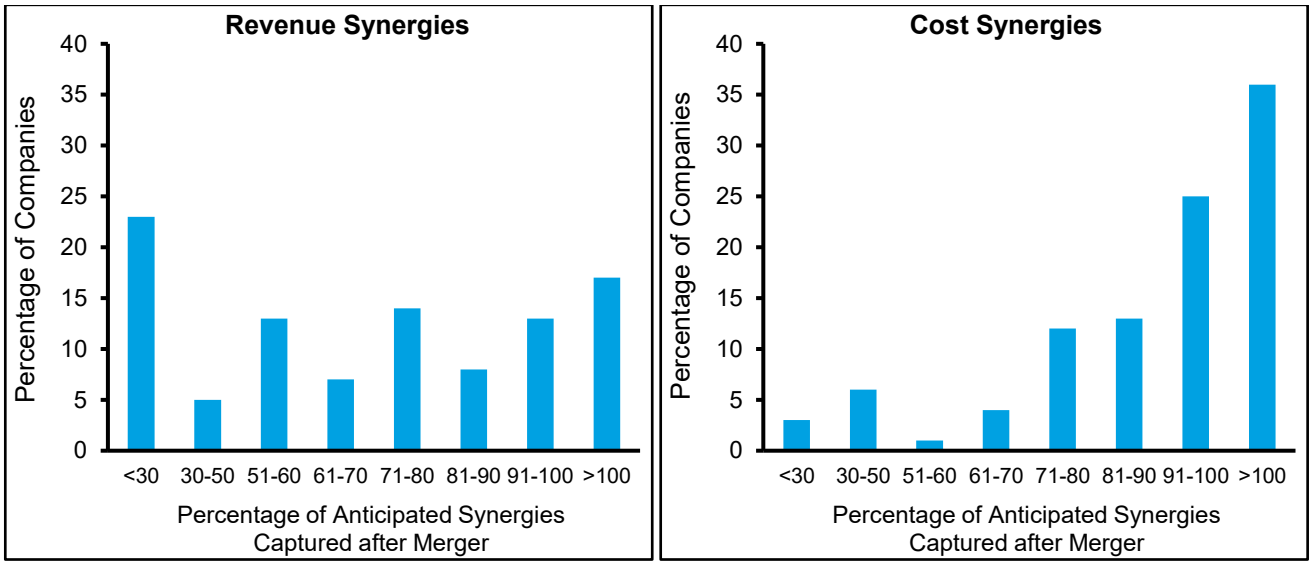
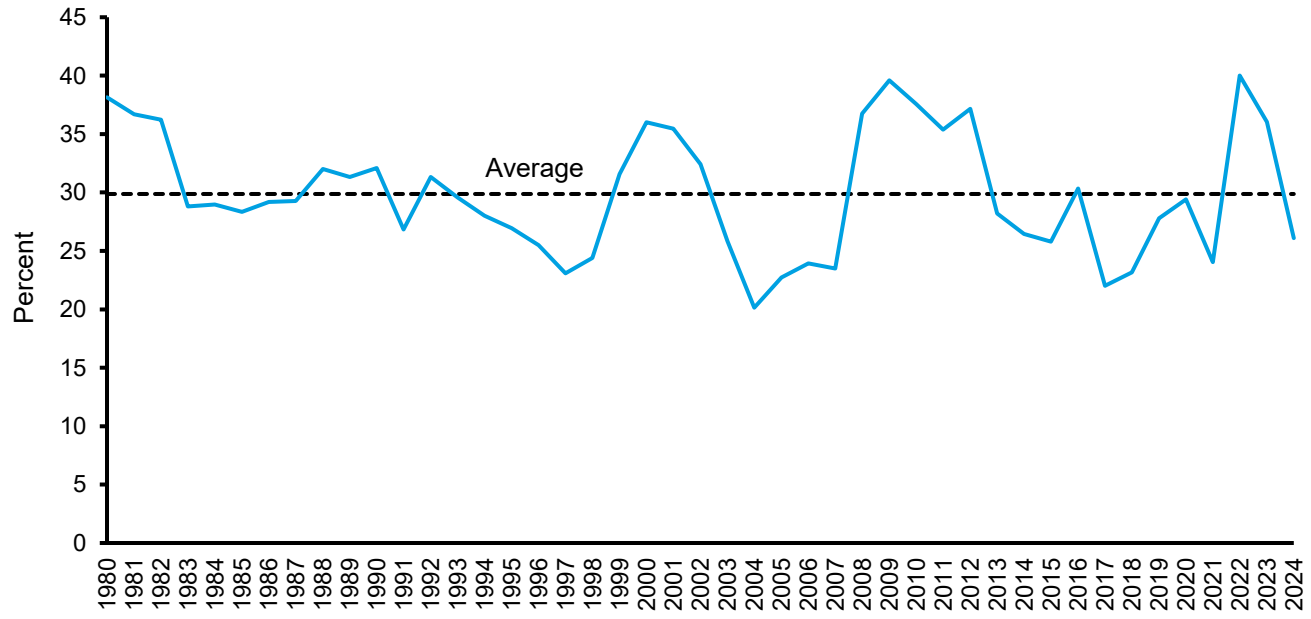
Exhibit 18: Cost Synergies Are More Reliable Than Revenue Synergies



Source: Based on Scott A. Christofferson, Robert S. McNish, and Diane L. Sias, "Where Mergers Go Wrong," McKinsey on Finance*, Winter 2004, 1-6.*

Exhibit 19 shows the average deal premium for each year from 1980 to 2024. The average over the full series is 30 percent. Each deal in this analysis receives an equal weight. The premium is calculated as the difference between the price a buyer pays and the prevailing price of the target prior to any expectation of a deal. For example, if the stock of a target company trades at $100 and a bidder offers $130, the premium is 30 percent ($30 ÷ $100). The premium is generally straightforward to calculate for any specific transaction but it can be difficult to aggregate the series of premiums.

Exhibit 19: Average Deal Premium, 1980-2024



Source: Counterpoint Global estimates; FactSet; Patrick A. Gaughan, Mergers, Acquisitions, and Corporate Restructurings-7th Ed. *(Hoboken, NJ: John Wiley & Sons, 2017), 611.*

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Shareholder value at risk (SVAR) is a useful way to gauge the downside risk for a buyer's stock price in an M&A deal.[56] In a cash deal, SVAR is defined as the premium pledged divided by the market capitalization of the buyer. For example, if a buyer offers a $200 premium to acquire a target and the market capitalization of the buyer is $2,000, the SVAR is 10 percent ($200 ÷ $2,000).

SVAR represents the amount of wealth transfer from the buyer to the seller in the case that the combination has no synergies. It gives you a sense of the size of the bet and how much value is at risk.

SVAR is always higher in a cash deal than a stock deal. In a stock deal, the SVAR is measured as the premium pledged divided by the market capitalization of the buyer plus the seller (including the premium). To extend the prior figures, assume that the deal is now for stock and that the value of the seller before the deal was $800. The SVAR would be 6.7 percent ($200 ÷ ($2,000 + $1,000)).

The insight is that by taking shares instead of cash, the seller is sharing in the risk of achieving the synergies. Practically, buyers can go down more than the premium if the deal signals to the market that the stand-alone value of either the buyer or seller is too high.

For most companies, M&A is more sporadic than other capital allocation decisions. In cases when one public company buys another, investors should answer the following questions to assess the deal upon announcement:[57]

- How material is the deal for the shareholders of the buying and selling companies?
- Is the deal operational or transformational?
- Is the buyer sending a signal by choosing to pay with stock or cash?
- What is the stock market's likely reaction?
- How do we update the analysis after the market's initial reaction?

You can use SVAR to measure materiality. Deals with high SVARs deserve substantial scrutiny. SVAR is not always obvious because the structures of deals are different and most announcements are based on stock prices rather than premiums and market capitalizations.

The nature of the deal also provides useful reference classes from which to draw. Operational deals do better on average than transformational ones, geographically closer deals tend to do better than distant ones, and acquisitions of private firms are commonly better than those of other public firms.[58]

The form of payment can also offer a signal. Exhibit 20 shows the mix of all-cash and all-stock or combination deals from 1980 to 2024. Cash deals have performed better than stock deals or deals that are financed with a blend of cash and stock. As the SVAR calculation revealed, executives who are confident that they can generate synergies that exceed the premium should use cash because that will allow them to capture all of the value for their shareholders. Managers who are unsure of the synergy benefits reduce the reward and risk by financing the deal with stock. As noted in the introduction, issuing stock is associated with poor subsequent total shareholder returns.

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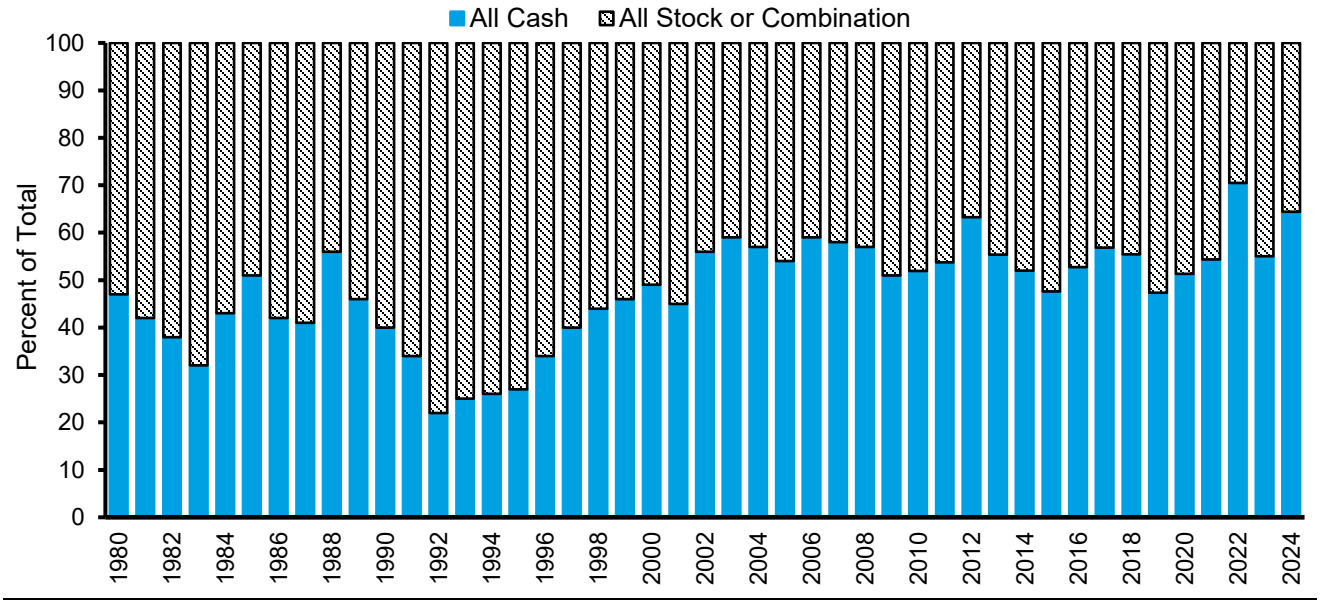
Exhibit 20: All-Cash Deals and All Stock or Combination Deals, 1980-2024



Source: Counterpoint Global; FactSet; Patrick A. Gaughan, Mergers, Acquisitions, and Corporate Restructurings-5th Ed. *(Hoboken, NJ: John Wiley & Sons, 2011), 577.*

We can estimate the stock market's reaction using Sirower's formula. In cases where management reveals cost synergies, you can take the after-tax synergy guidance and divide it by the cost of capital and compare the result to the premium offered. We have found that this calculation, while imperfect, is vastly more informative than heuristics such as the change in EPS.

Finally, you can assess the market's take on a deal after it digests the news and reflects the consensus opinion of investors. This shows up as changes in stock price for the buyer and seller. Compare the predictions of the market's reaction with what actually happens. For example, the buyer's stock will trade lower than the formula suggests when the market is skeptical about the ability of the buyer to achieve its stated synergies. For acquisitions that are material, deeper analysis of potential synergies offers the opportunity for a differentiated opinion on a stock.

Management teams and investors sometimes dismiss the feedback from market returns, suggesting that they are short-term oriented and hence uninformative. We return to the study of 1,267 deals. The analysis included deals between public companies, with purchase prices of $100 million or more, and where the value of the seller was at least 10 percent that of the buyer. The sample includes all of the deals announced from 1995 to 2018 that met these criteria.

Exhibit 21 shows the results. First, the market greeted 508 of the deals, or 40 percent, with an average initial response of +7.7 percent. The market's average initial response to the other 60 percent of the deals was -7.8 percent. These are calculated by measuring the total return, adjusted for the industry, from five days before the announcement to five days after.

One noteworthy point is the success rate of buyers has improved over time. The authors of this study broke the sample into three time periods. From 1995-2002, buyers saw positive returns 36 percent of the time. From 2003-2010, that ratio rose to 40 percent. In the final period, 2011 to 2018, acquirers saw their stock go up 44 percent of the time. This is consistent with other research showing better returns for buyers in M&A since the end of the financial crisis of 2008-2009.[59]

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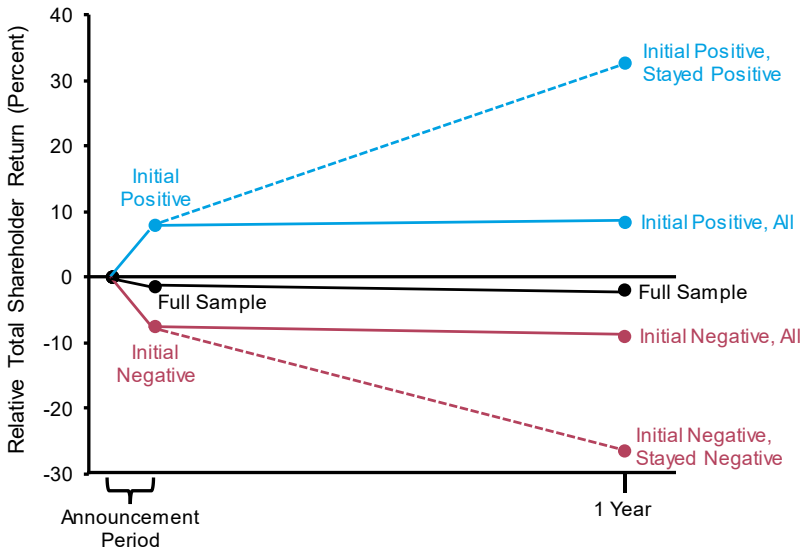
Exhibit 21: Short- and Long-Term Results for Selected M&A Deals, 1995-2018



	Number of Deals	Percent of Deals	Announce-ment Return	One-Year Return	Premium
Initial Positive, Stayed Positive	290	23%	8.0%	32.7%	26.6%
Initial Positive, All	**508**	**40%**	**7.7%**	**8.4%**	**26.9%**
Full Sample	**1,267**	**100%**	**-1.6%**	**-2.1%**	**30.1%**
Initial Negative, All	**759**	**60%**	**-7.8%**	**-9.1%**	**32.2%**
Initial Negative, Stayed Negative	495	39%	-9.0%	-26.7%	33.8%

Source: Counterpoint Global based on Mark Sirower and Jeff Weirens, The Synergy Solution: How Companies Win the Mergers and Acquisitions Game *(Boston, MA: Harvard Business Review Press, 2022), 7.*

The study then extended the return window to one year after the announcement to see if the positive or negative responses persisted. The researchers found that 290 of the initial 508 positive responses (57 percent) persisted compared to 495 of the initial 759 negative responses (65 percent). This shows that while the market is not perfect at assessing deals, the initial reaction is informative and relatively unbiased. As important, poor results are modestly more likely to persist than positive ones.

Finally, there is a direct relationship between premium paid and deal success. Positive deals had lower premiums, on average, than negative ones did. This makes sense as it indicates the magnitude of synergies the buyer must realize in order to create value.

Investment SG&A ex-R&D. There has been a marked shift from tangible to intangible investment in the last half century. For example, in the U.S. tangible investment was roughly double that of intangible investment in the 1970s, and in recent years that ratio has flipped.[60] Analysis that decomposes the market value of firms suggests that 26 to 68 percent of the value is attributable to intangible capital.[61]

Most discussion of capital allocation focuses on tangible investment, including capital expenditures and working capital. Tangible assets are those that you can touch. Intangible assets are nonphysical. Examples include software code, marketing to build a brand, customer acquisition costs, and employee training (see exhibit 22).

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Exhibit 22: Categories of Intangible Assets

Broad category	Type of investment	Type of legal property that might be created
Computerized information	Software development	Patent, copyright, design intellectual property rights (IPR), trademark, other
	Database development	Copyright, other
Innovative property	R&D	Patents, design IPR
	Mineral exploration	Patents, other
	Creating entertaining and artistic originals	Copyright, design IPR
	Design and other product development costs	Copyright, design IPR, trademark
Economic competencies	Training	Other
	Market research and branding	Copyright, trademark
	Business process re-engineering	Patent, copyright, other

Source: Counterpoint Global based on Jonathan Haskel and Stian Westlake, Capitalism Without Capital: The Rise of the Intangible Economy *(Princeton, NJ: Princeton University Press, 2017), 44.*

Measuring tangible investments is relatively straightforward because they show up as distinct line items on the statement of cash flows and balance sheet. Measuring internally-generated intangible investments is a challenge because they are commingled with maintenance spending within selling, general, and administrative (SG&A) expenses on the income statement.[62]

That the accounting treatment of tangible and intangible investments is different has made financial statements less informative over time.[63] In 1974, the Financial Accounting Standards Board (FASB) decided that companies should expense research and development (R&D), a prominent form of intangible investment. The FASB considered capitalizing R&D, which would have treated it similarly to tangible investments, but they decided that "there is normally a high degree of uncertainty about the future benefits of individual research and development projects." Their research concluded that "a direct relationship between research and development costs and specific future revenue generally has not been demonstrated."[64]

Accountants choose to be conservative in cases when the link between expenditure and benefit is not clear. That means expensing R&D and other intangible investments. This is not without basis, as research shows the payoffs for R&D are more uncertain than those for capital expenditures.[65] That said, there is now a large body of evidence confirming that recasting financial statements to reflect intangible investments improves their usefulness in explaining asset prices.[66]

The way to put tangible and intangible investments on equal footing is to capitalize intangible investments on the balance sheet and to amortize them over time. The amortization expense appears on the income statement.

The main challenge is determining how much of SG&A is a discretionary intangible investment and how much is a maintenance expense necessary to sustain current operations. But the challenge does not stop there. Once you estimate the investment and create an internally-generated intangible asset, you need to assign useful lives to the assets to amortize them. This allows for tangible and intangible investments to be treated the same way.

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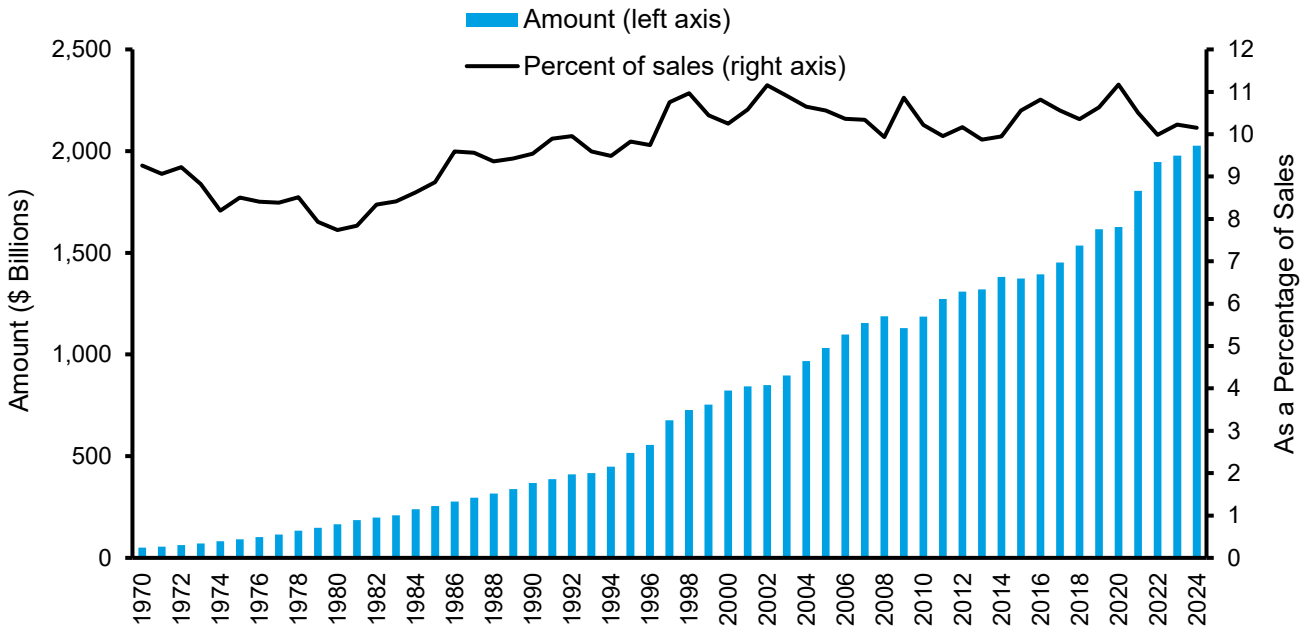
Academics are actively researching methods to isolate intangible investment from SG&A and to estimate useful lives.[67] The most common approach is to assume that all of R&D, and 30 percent of SG&A excluding R&D, is an intangible investment.[68] Some more recent research tailors the estimates for intangible investment and asset lives by industry.[69] Intangible-intensive industries have large adjustments to their financial statements while tangible-intensive industries see little change.[70]

To estimate investment SG&A ex-R&D, we take the aggregate SG&A, subtract R&D, and apply the investment percentage estimated by Aneel Iqbal, Shivaram Rajgopal, Anup Srivastava, and Rong Zhao, professors of accounting.[71] Exhibit 23 shows the results. Investment SG&A ex-R&D was more than $2.0 trillion in 2024, up from $50 billion in 1970. The sum has risen from 9.3 percent of sales in 1970 to 10.1 percent in 2024. Adding investment R&D to the 2024 result brings the total for intangible investment to $2.7 trillion.

Exhibit 23: Investment SG&A ex-R&D, 1970-2024



Source: Counterpoint Global; Compustat; FactSet.
Note: Excludes financial companies.

We need to consider amortization to measure the net investment in SG&A ex-R&D. Exhibit 24 shows our estimate of investment SG&A ex-R&D net of amortization from 1970 through 2024. The total was 0.7 percent of sales in 2024 and averaged 1.8 percent of sales over the full period. Saying it a little differently, amortization has been around 80 percent of investment SG&A ex-R&D.

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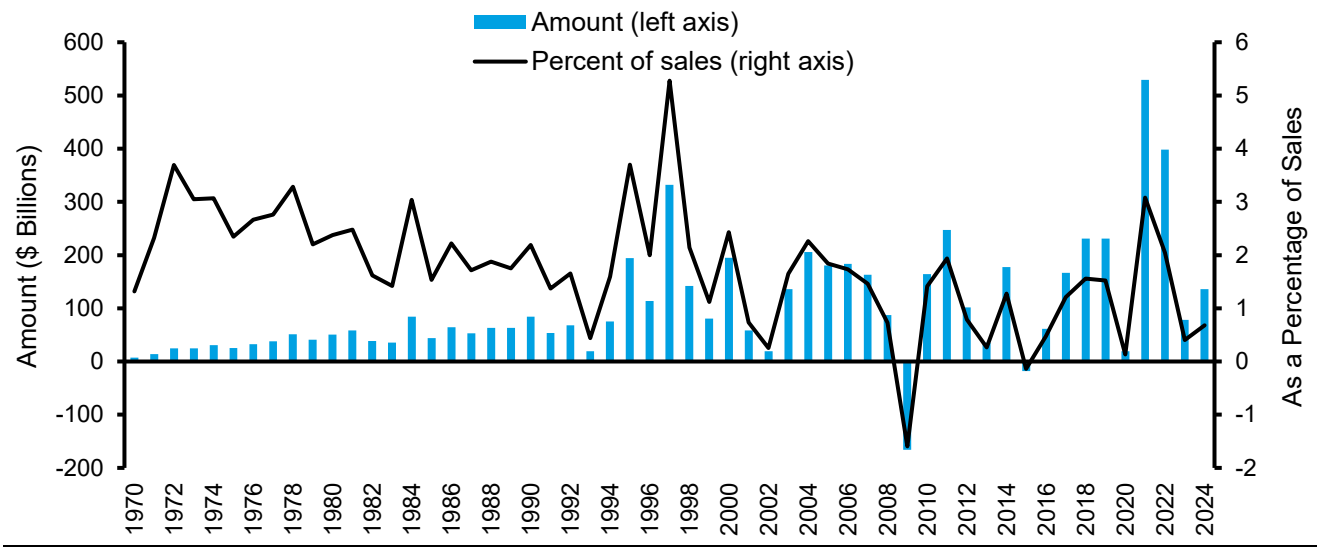
Exhibit 24: Investment SG&A ex-R&D Net of Amortization, 1970-2024

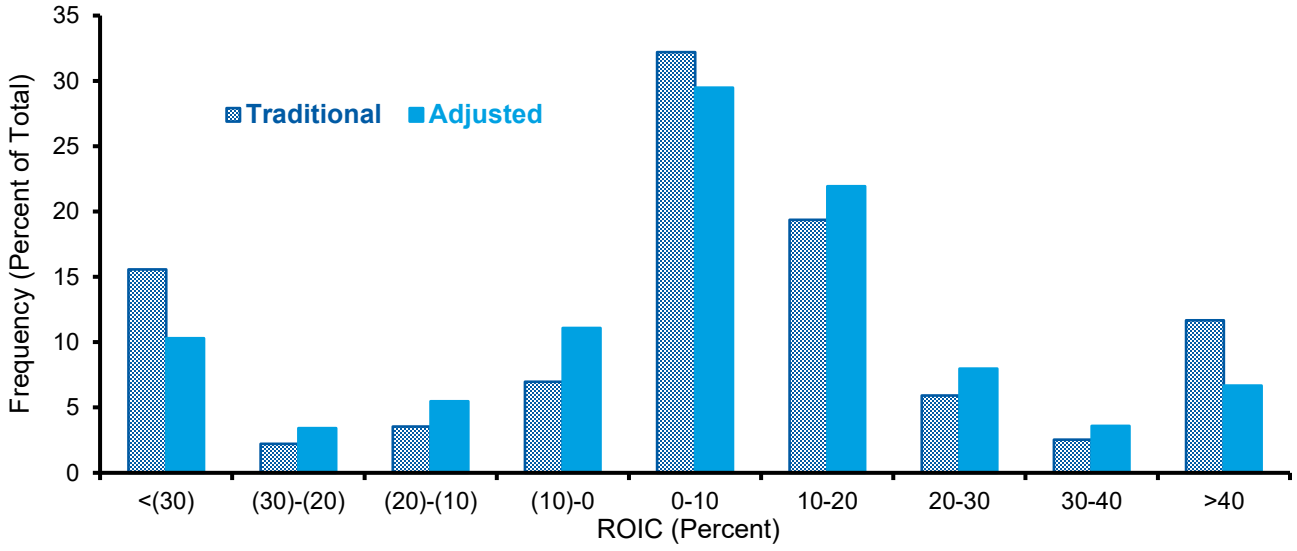


Source: Counterpoint Global; Compustat; FactSet.
Note: Excludes financial companies.

While few studies focus on a direct link between intangible investment and value creation, there are clues it is a good investment. For example, so-called "superstar" firms, those with above-average ROICs that often invest heavily in intangible assets, have higher output per unit of invested capital than their rivals.[72] Companies that invest heavily in intangibles through SG&A also earn positive excess returns, on average.[73] This suggests the return on the investments proved to be higher than what the market expected. Finally, the returns on advertising spending appear to be attractive when it boosts value for the customer and the resulting willingness to pay.[74]

Exhibit 25 shows the distribution of ROIC calculated in the traditional fashion (dotted bars) as well as the distribution adjusted for internally-generated intangible assets (solid bars). The median does not move much but the adjustment regresses the extremes toward the average. We believe these adjustments result in a more accurate view of the economics of the businesses.

Exhibit 25: Distributions of ROICs, 1970-2024



Source: Counterpoint Global; Compustat; FactSet.
Note: Excludes financials.

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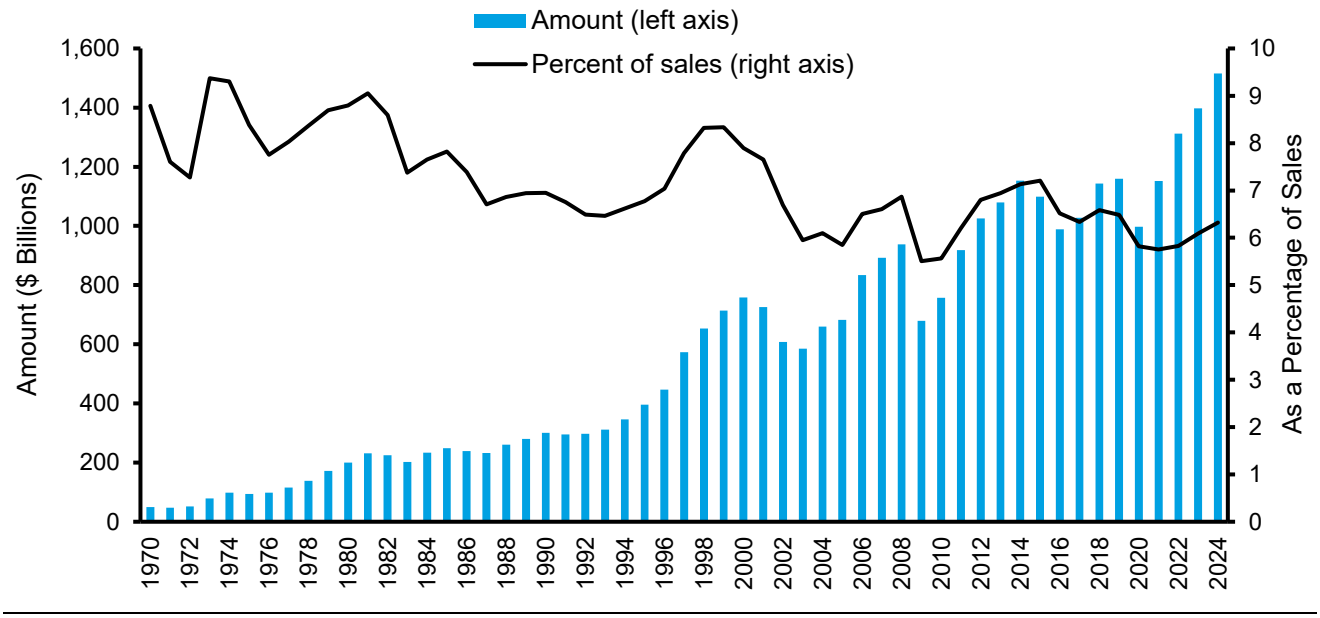
Capital Expenditures. Companies allocated $1.5 trillion, or 6.3 percent of sales, to capital expenditures in 2024. Capital expenditures are generally one of the top three uses of capital. Similar to intangible investment, capital expenditures are less cyclical than M&A.

Exhibit 26 shows capital expenditures as a dollar amount and as a percentage of sales from 1970 through 2024. Over this period, spending peaked at 9.4 percent of sales in 1973 and troughed at 5.5 percent of sales in 2009. Spending rebounded to 7.2 percent of sales in 2015 reflecting increases in spending in the energy and materials sectors. It has drifted lower as a percentage of sales in the last ten years, with spending falling near the all-time low during the COVID pandemic, followed by a small uptick.

Exhibit 26: Capital Expenditures, 1970-2024



Source: Counterpoint Global; Compustat; FactSet.

Executives and investors commonly break capital expenditures into two parts. The first is maintenance capital expenditures, the minimum spending required to maintain or replace the long-term assets in place. The second is investment spending in pursuit of growth that creates value. Investors who are surveyed say they want to be able to separate maintenance and growth capital expenditures.[75]

Many investors operate with the simple assumption that depreciation is a reasonable proxy for maintenance capital spending. That makes sense because accountants record the cost of an asset on the balance sheet and then estimate its useful life to determine a depreciation schedule. For instance, if a company pays $1,000 for a machine that has a 5-year life, the company will depreciate $200 per year over that time in order to match revenue and expense. If depreciation approximates maintenance needs, only the capital expenditures above depreciation are an investment.

Using this definition, capital expenditures attributable to investment were 38 percent of total capital expenditures over the full period. That spending for maintenance is essential explains a good deal of the stability of capital expenditures. Further, it suggests that in assessing the value creation prospects of capital expenditures, you are best served to focus on the component that supports growth. Academic research shows that the distinction is useful for investors.[76]

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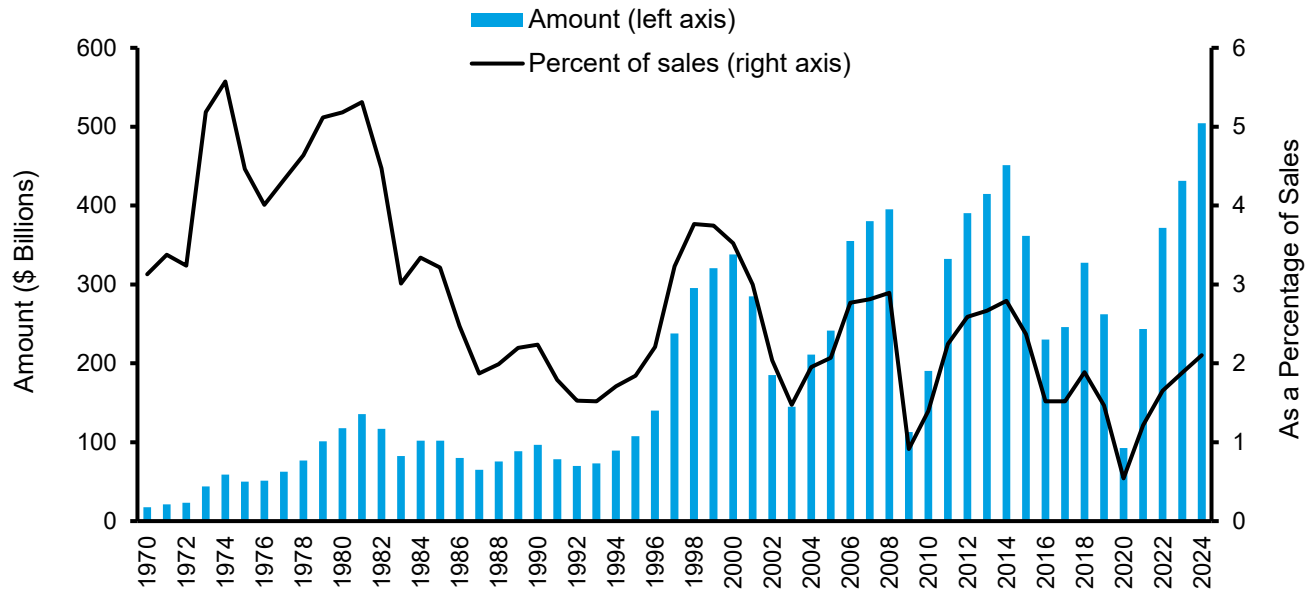
Exhibit 27 shows capital expenditures minus depreciation for the population we studied. Using this measure, investment as a percentage of sales peaked in 1974 at 5.6 percent and bottomed in 2020 at 0.5 percent of sales. The average of the past decade was 1.6 percent.

Exhibit 27: Capital Expenditures Net of Depreciation, 1970-2024



Source: Counterpoint Global; Compustat; FactSet.

The two substantial limitations to using depreciation as a proxy for maintenance capital expenditures include inflation and the risk of technological obsolescence. In periods of rising prices, the capital expenditures required to replace new equipment will exceed depreciation because new expenditures reflect inflation whereas depreciation is based on historical costs.[77] Faster-than-expected technological obsolescence results in the asset's useful life being overstated and the depreciation understated.

Venkat Peddireddy, an assistant professor of accounting at China Europe International Business School, developed a framework to measure maintenance spending called "cumulative capacity cost." This is the sum of depreciation and amortization (D&A), asset write-downs, loss on the sale of assets, goodwill impairment, and intangible asset impairments over a five-year period. By including write-downs, losses, and impairments, this measure reflects evidence for technological obsolescence as well as normal wear and tear.

Peddireddy concludes that depreciation understates maintenance capital expenditures by about 20 percent (see exhibit 28). This percentage varies substantially by industry and there are certainly additional differences for individual companies within the industries. We believe Peddireddy's approach has some limitations but that there are sensible approaches to breaking capital expenditures into maintenance and growth parts.[78]

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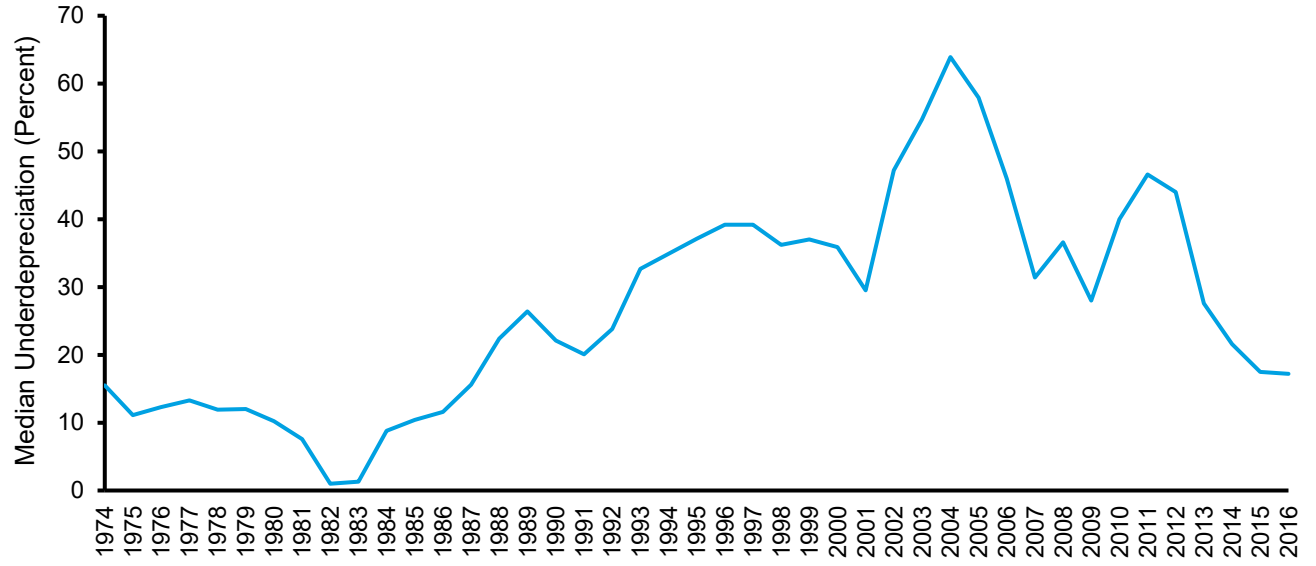
Exhibit 28: Amount That Maintenance Capital Expenditures Exceed D&A, 1974-2016



Source: Venkat Ramana Reddy Peddireddy, "Estimating Maintenance CapEx," PhD Thesis—Columbia University, *2021.*

Overall, announcements of capital expenditure increases tend to be well received by the stock market.[79] This suggests they are deemed to be value creating. But the reception to capital expenditure guidance largely relies on the perceived opportunites.[80] Like many capital allocation options, the benefits appear to follow the shape of an inverted U. Too little and too much spending is bad, and there is an optimal level for creating value.[81]

Through the first half of 2025, capital expenditures are up about 15 percent relative to the comparable prior period. We calculate that 60 percent of this increase reflects the spending of just four companies: Amazon, Meta, Alphabet, and Microsoft. Often called hyperscalers, these companies provide cloud services on a large scale.

Research and Development. R&D is largely an intangible investment. Research is dedicated to innovation that allows for the introduction of new products or services. Development focuses on the process of making those products or services attractive to the market.

In the U.S., businesses account for about 70-75 percent of total R&D spending, the federal government 20 percent, and academia and other entities the other 5-10 percent.[82]

U.S. businesses spend 20-25 percent of their R&D budget on research and 75-80 percent on development.[83] The information technology and healthcare sectors spend the most on R&D. In contrast, the federal government's R&D budget is split more evenly between research and development.

Consistent with the fact a large majority of R&D spending is on development, researchers have argued that the entirety of R&D should not be considered a discretionary intangible investment.[84] One recent study suggested that about 75 percent of R&D should be deemed an investment using a weighted average of all industries. The rest is properly considered maintenance spending.[85]

Exhibit 29 displays investment R&D as both a dollar amount and as a percentage of sales from 1970 to 2024. Investment R&D was around 1.0 percent of sales in the 1970s, then rose steadily to 1.8 percent by 1995, remained relatively flat until 2012, and then climbed sharply to 3.3 percent of sales in 2024. The rise in investment R&D as a percentage of sales during the full period reflects the change in the composition of the market, as the sector weights of technology, healthcare, and communication services have doubled since 1970 and now represent just over half of the S&P 500.

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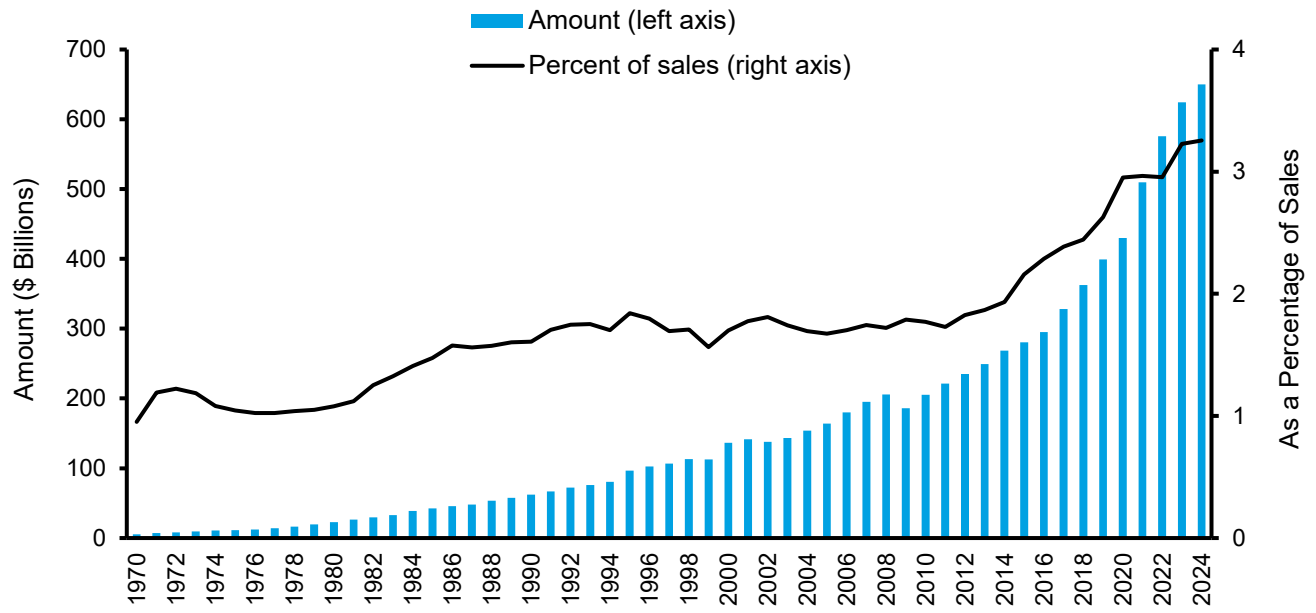
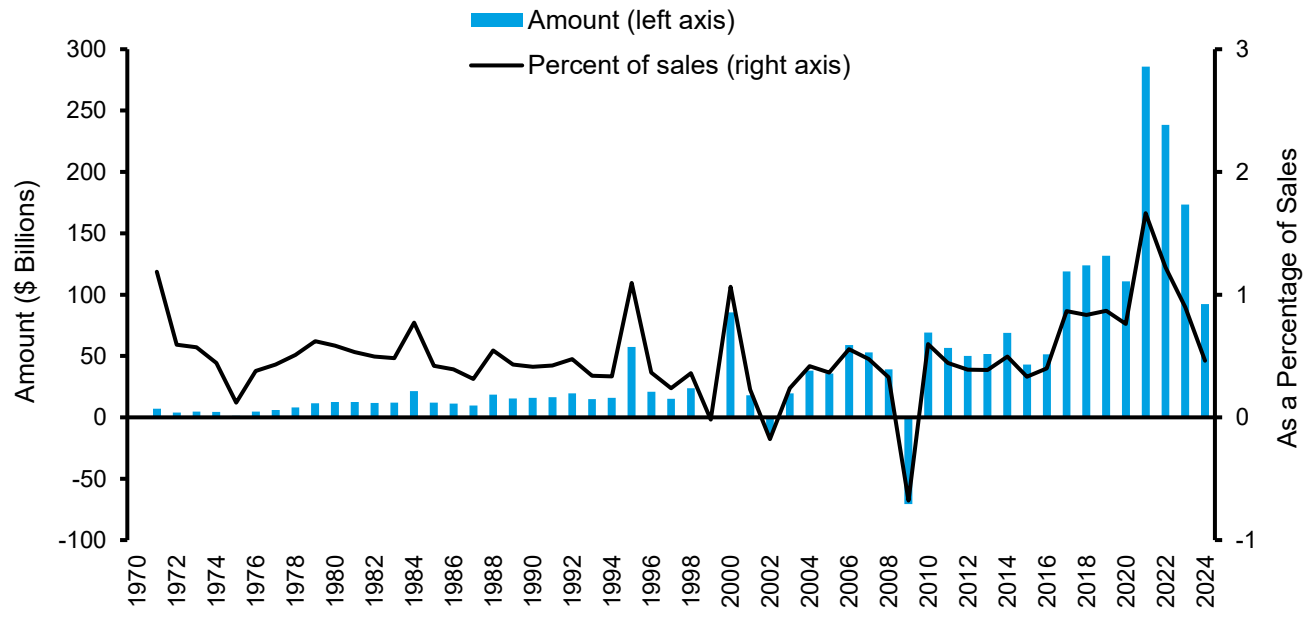
Exhibit 29: Investment Research and Development, 1970-2024



Source: Counterpoint Global; Compustat; FactSet.
Note: Excludes financials.

Exhibit 30 shows investment R&D net of amortization. This is equivalent to capital expenditures net of depreciation. This analysis assumes the weighted average asset life for R&D is 4.8 years. Investment R&D net of amortization peaked at 1.7 percent of sales in 2021 and reverted to the long-term average of 0.5 percent of sales in 2024.

Exhibit 30: Investment R&D Net of Amortization, 1970-2024



Source: Counterpoint Global; Compustat; FactSet.
Note: Amortization rate is 20.8 percent, which implies a 4.8-year asset life.

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R&D productivity measures the relationship between the value of a new product and the investment in that product. Productivity is inherently difficult to measure because of the lag between investment and outcome. We like the distinction between "R&D efficiency," the cost to launch, and "R&D effectiveness," the value per launch. Efficiency is closer to research and effectiveness to development.

The company that is good at bringing a product to market may be different than the company that can create value through better capabilities in design, marketing, or distribution.[86] This helps explain why large pharmaceutical companies that have R&D effectiveness acquire small ones that have shown R&D efficiency.

Overall, the evidence suggests the returns to R&D have been declining in recent decades.[87] Anne Marie Knott, a professor of strategy at Washington University in St. Louis, developed a metric she calls "research quotient" (RQ). RQ uses a production function to measure the percentage increase in revenue (output) from a one percent increase in R&D (input), holding other variables constant.[88]

Her analysis suggests that about one-third of companies spend below the optimal level of R&D and have the opportunity to create value by spending more. Nearly two-thirds spend too much and can cut costs without jeopardizing value. She deems five percent of her sample to be close to optimal. Knott notes that activist investors are pretty good at identifying companies that overspend on R&D.[89]

RQ adds value as a measure of innovation and a determinant of value.[90] RQ underscores the idea that the right amount to spend on any of the capital allocation alternatives depends on the prevailing conditions.[91] Average RQ has been declining in recent decades, indicative of deteriorating returns to R&D spending.

Taking a step back, long-run growth associated with innovation is a function of the number of researchers and their productivity. One study shows that while research effort continues to increase, research productivity is decreasing.[92] Another finds that while R&D still boosts firm-level productivity and value, sustaining advantage is harder than ever because of rapid obsolescence caused by intense rivalry.[93]

The real R&D cost to bring a drug to market has risen steadily over the decades, which provides additional evidence for the decline in returns associated with R&D.[94] Some accounting professors suggest their research shows "strong evidence of a declining relation between R&D and future profitability."[95]

Expenditures for R&D were up around 9 percent in the first half of 2025 versus 2024 for the universe of public companies that we measure. Similar to capital expenditures, we calculate that nearly 60 percent of this increase reflects the spending of Amazon, Meta, Alphabet, and Microsoft.

Net Working Capital. Net working capital is a measure of how much capital a company needs to operate under normal conditions. It is defined as current assets minus non-interest-bearing current liabilities (NIBCLs). "Current" means the item is expected to be either an inflow or an outflow of cash in the next twelve months. Capital allocation focuses on the change in net working capital as a measure of incremental investment.

Net working capital has lost significance as a factor in capital allocation in recent decades because there is less of it. Net working capital was nearly 30 percent of assets in the 1970s and is less than 10 percent of assets today. A reduction of inventory levels, the result of more sophisticated technology and a shift toward intangible-based businesses, is the biggest driver of this decline.[96]

Exhibit 31 shows the annual change in net working capital from 1970 through 2024. At the end of 2024, the companies in our sample had net working capital of $1.5 trillion. Net working capital investment over this time averaged just 0.6 percent of sales, a percentage substantially lower than that of M&A, investment SG&A ex-R&D, capital expenditures, and investment R&D.

Net working capital was up just under two percent in the first half of 2025 versus the same time frame in 2024.

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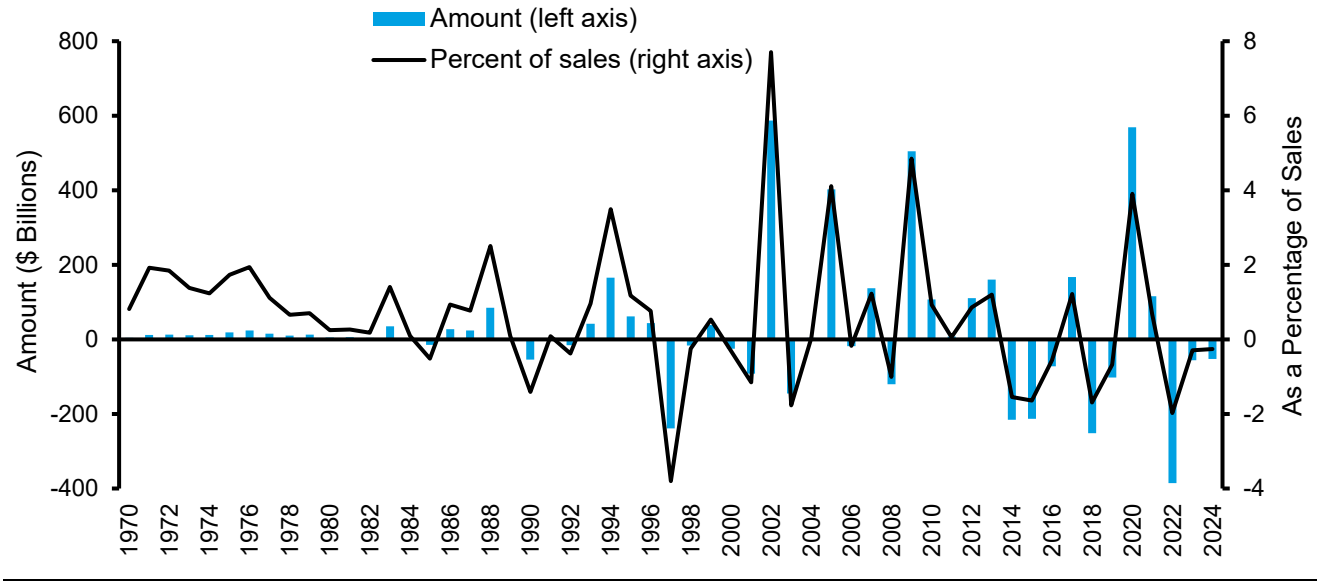
Exhibit 31: Change in Net Working Capital, 1970-2024

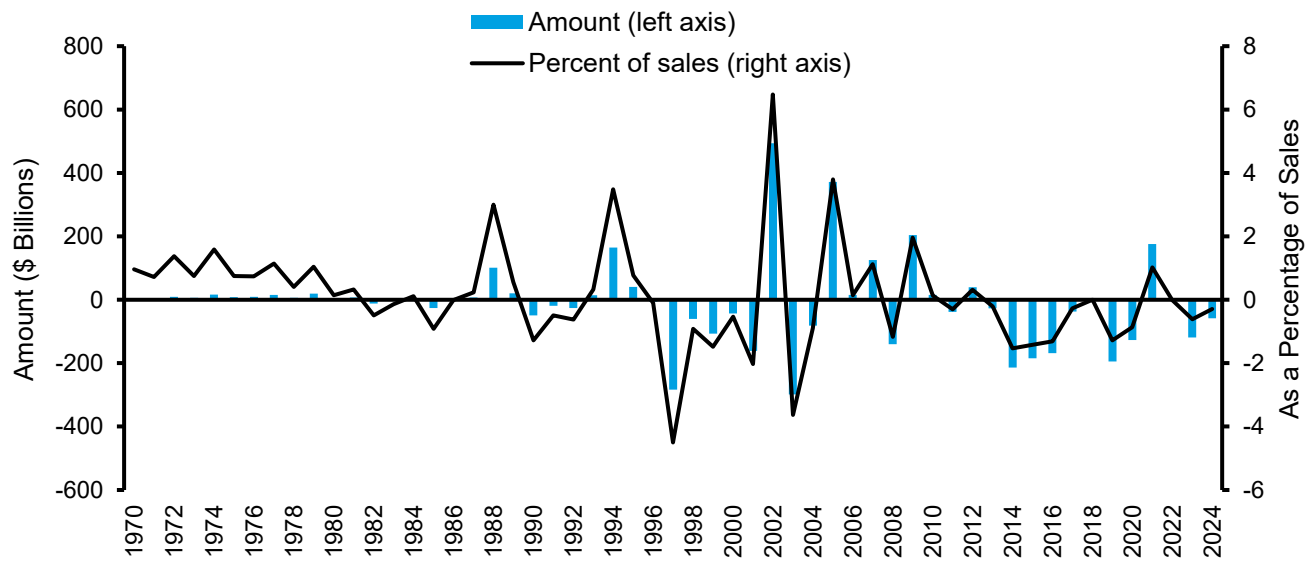


Source: Counterpoint Global; Compustat; FactSet.
Note: Excludes financials.

Net working capital includes cash and short-term investments. The cash necessary to run a business tends to vary based on where a company is in its life cycle. Still, many companies hold excess cash. Exhibit 32 shows the change in net working capital excluding excess cash and short-term investments. Here we assumed that companies required cash balances of two percent of sales.

We estimate that the companies in the universe we measure hold nearly $2.1 trillion in excess cash. As mentioned above, the distribution of the cash holdings is very skewed. One-quarter of total cash and short-term investments is held by 10 companies, one-third by the top 21, and one-half by 67 firms. As we will see, these cash-rich firms are also at the forefront of paying dividends and buying back stock.

Exhibit 32: Change in Net Working Capital Ex-Excess Cash, 1970-2024



Source: Counterpoint Global; Compustat; FactSet.
Note: Excludes financials.

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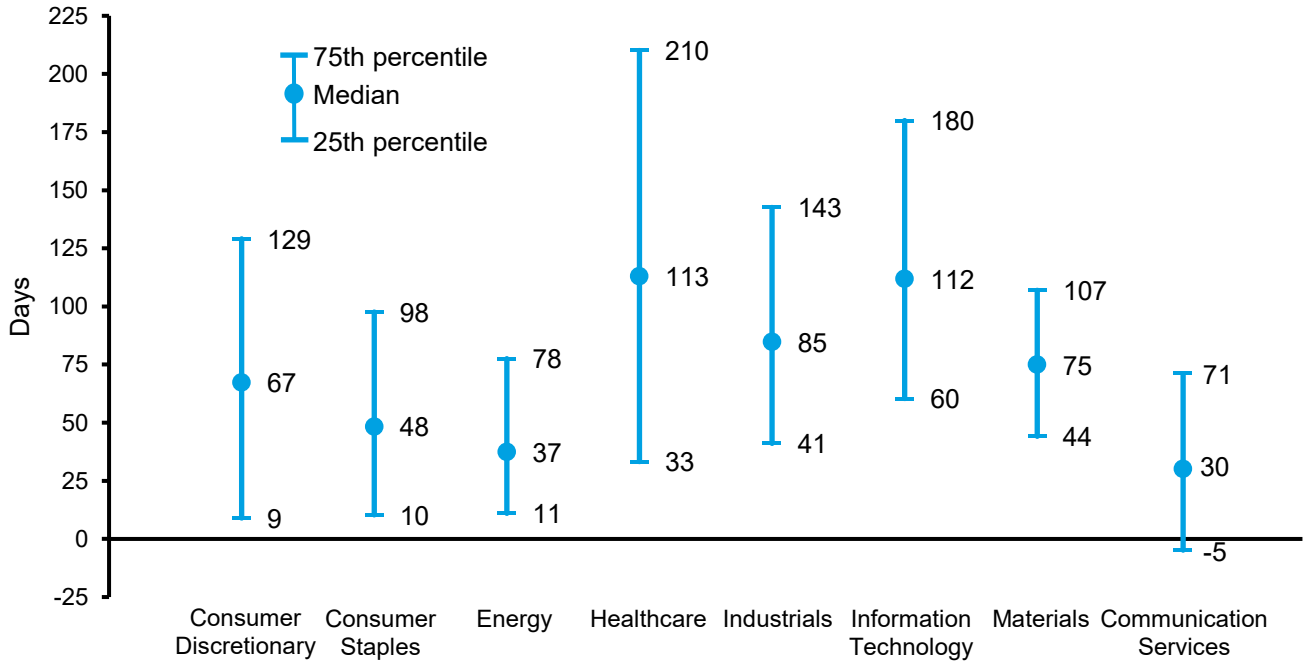
Working capital investment is de minimis. But companies that hold excess cash and short-term investments should be subject to scrutiny about their capital allocation choices and plans. We have documented that cash holdings in the U.S. have risen steadily since 1970, pointing to the rise of intangible investments as the main reason for the increase. Companies also hold cash because of its perceived option value, but that consideration should be tempered by the risk of misallocation.[97] The market values the cash of firms with good investment opportunities at a premium, and those with poor corporate governance at a discount, to the recorded amount.[98]

The cash conversion cycle (CCC) measures how many days a company's cash is tied up in working capital during the normal course of business.[99] Exhibit 33 shows the cash conversion cycle for eight sectors in 2024. Communication services is the sector with the lowest median CCC, at 30 days, while healthcare has the highest at 113 days. But there can be a great deal of variation within each sector and industry. For example, the CCC was -33 days for Amazon and 45 days for Macy's in 2024. Both companies are in the consumer discretionary sector and the broadline retail industry and sub-industry.

Exhibit 33: Cash Conversion Cycle for Eight Sectors, 2024



Source: Counterpoint Global; FactSet.

As the Amazon figures reveal, companies can have negative net working capital, and a negative CCC, when NIBCLs exceed current assets. These firms collect the cash on the inventory that they sell before they have to pay their suppliers. Suppliers effectively serve as a source of financing. Firms can't have a negative cash conversion cycle forever because all businesses wind down eventually. But negative CCC's can last a long time.

Excessive working capital may be a drag on value.[100] But as the COVID-induced travails with the supply chain underscore, too much efficiency in the supply chain can introduce fragility. That said, academic research shows companies that effectively manage their working capital, expressed as the CCC, deliver higher shareholder returns than those that do not.[101]

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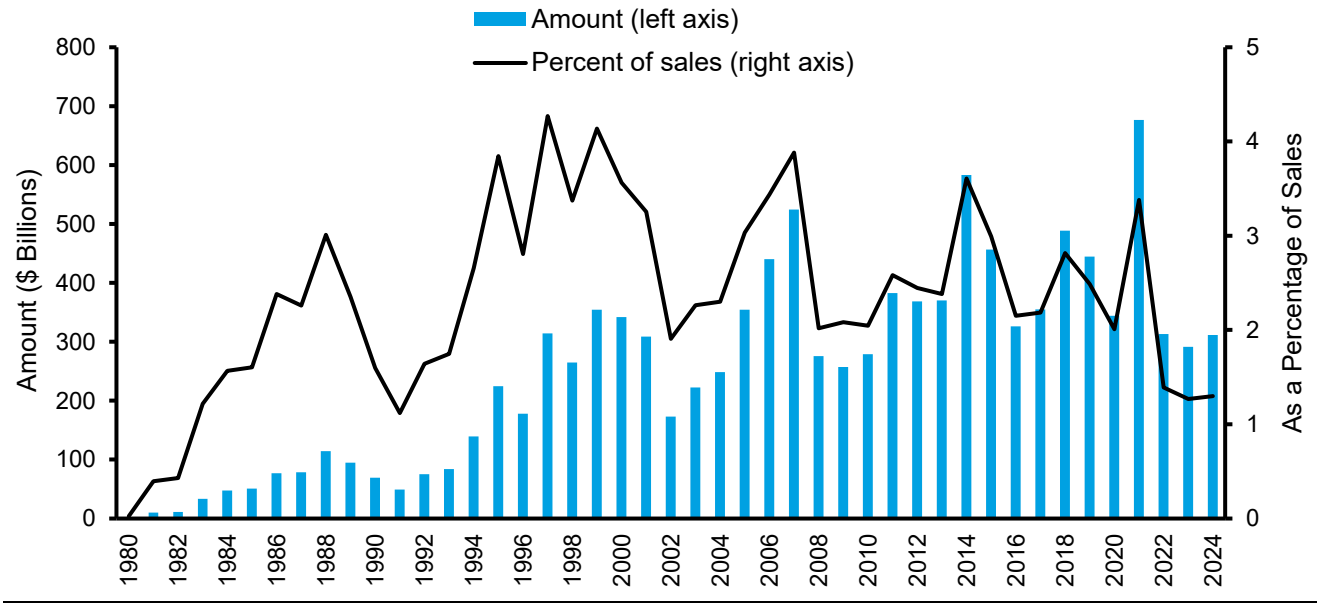
Divestitures. Divestitures, which include the sale of divisions, spinoffs, and equity carve-outs, modify a company's portfolio of businesses. A firm should consider divesting an operation if it is worth more to another owner or if it allows the company to better focus on its other businesses and hence improve results.

Executives are often reticent to divest businesses for a few reasons.[102] First, a divestiture is typically the result of unwinding a prior decision. As a result, a deal is an admission of a past mistake.[103] Second, most managers want to grow their businesses rather than shrink them. Growth is consistent with more responsibility and remuneration. Finally, there are commonly political issues within firms that can create resistance to spinning off or selling operations.

Exhibit 34 shows divestitures from 1980 to 2024. These figures include spinoffs, but about 85 percent of the value on average is the sale of an asset or division to another company. Divestitures get less attention than M&A but are nonetheless an important means of capital allocation. Over this period, we estimate divestitures have averaged 2.3 percent of sales for companies in the U.S.

Exhibit 34: Divestitures, 1980-2024



Source: Counterpoint Global; LSEG; FactSet; Compustat.

A spin-off is when a public company distributes shares of a wholly-owned subsidiary to its shareholders on a pro-rata and tax-free basis. One example is General Electric, once a major conglomerate, which spun off GE Healthcare Technologies, its healthcare business, in 2023 and GE Vernova, its power business in 2024, leaving only GE Aerospace. A more recent case is Kraft Heinz, the food conglomerate, which announced that it will split into two parts, "Global Taste Elevation Co.," a shelf-stable meals business, and "North American Grocery Co.," a portfolio of North American brands that include *Oscar Mayer,* a producer of meat and cold cuts.

Exhibit 35 shows the number and value of announced spinoffs from 1980 through 2024.

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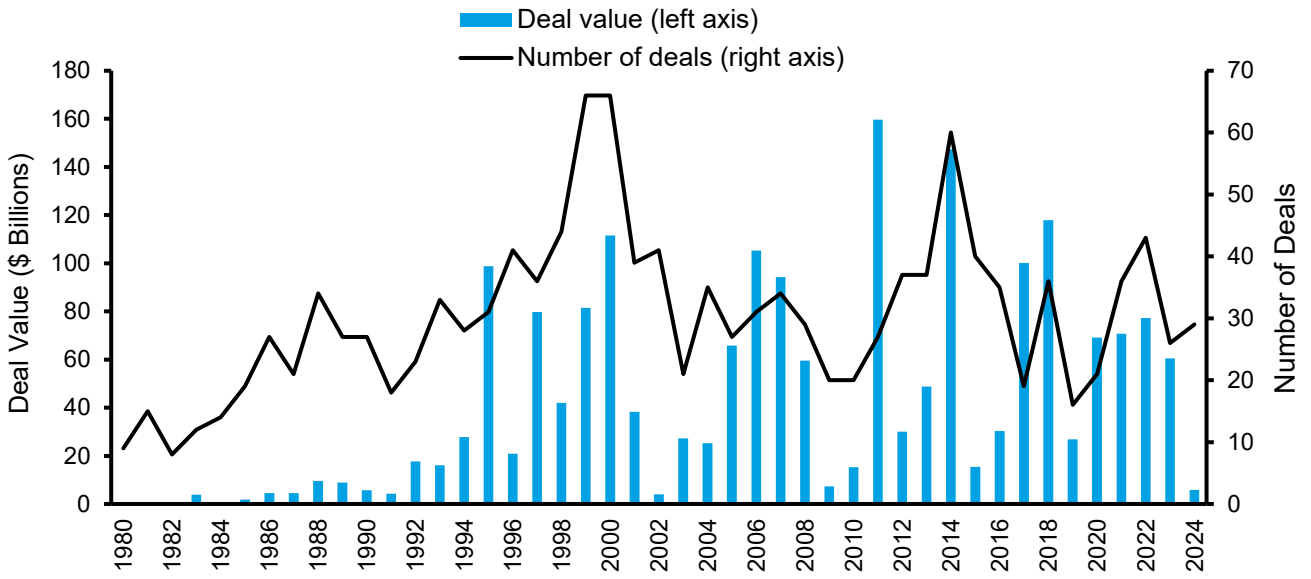
Exhibit 35: Spinoffs, 1980-2024



Source: Counterpoint Global; LSEG; FactSet; Spin-Off Research.

Research shows that divestitures tend to be good for shareholders. This stands to reason. Analysis shows that it is common for a relatively small percentage of a company's assets to create most of the value.[104] In other words, most companies have businesses that fail to earn the cost of capital and therefore may be more valuable to another strategic or financial owner. These divestitures lead to addition by subtraction, as the value of the proceeds exceeds the value of the operation as part of the company.[105]

As we saw, M&A creates value in the aggregate but the seller frequently captures more than 100 percent of that value. It is better, on average, to be a seller than a buyer.

Sellers do particularly well when an asset has multiple suitors. In a contested deal, the buyer is often subject to the "winner's curse."[106] In this case, the "winner" of an auction offers too much for the asset and has to accept the "curse" of overpaying. The winner's curse describes a wealth transfer from the buyer to the seller.

Academic papers on M&A outnumber those about divestitures by nearly a six to one margin.[107] A meta-analysis of nearly 100 studies on divestitures concludes: "In the broadest possible terms, our results suggest that on average, divestiture actions are associated with positive performance outcomes for the parent firm."[108]

Spin-offs generally create value for the spinoffs themselves as well as the corporate parents.[109] The central finding of a recent meta-analysis of the spinoff literature was: "spin-offs, conglomerates, and stockholders benefit from tax-free divestiture and subsequent refocusing by the companies."[110] The drivers of this value creation include sharpened managerial focus, better information about the business, and tax treatment.[111]

Dividends. The sum of cash a company can pay shareholders over its lifetime ultimately determines shareholder value. Dividends, share buybacks, and proceeds from the sale of the company for cash are the three main ways shareholders get cash. A dividend is a cash payment to a shareholder that is generally funded by profits.

Dividends and buybacks are equivalent under strict assumptions (see appendix).[112] But most executives think of them as meaningfully different. Dividends, once set, are considered equivalent to investment decisions such as capital expenditures. Buybacks are seen more as a way to disburse residual cash after the firm has made all suitable investments.[113] As a result, dividends are much less volatile than buybacks (see exhibit 36). The standard deviation of the growth rate of dividends from 1970 to 2024 is around one-sixth that of buybacks.

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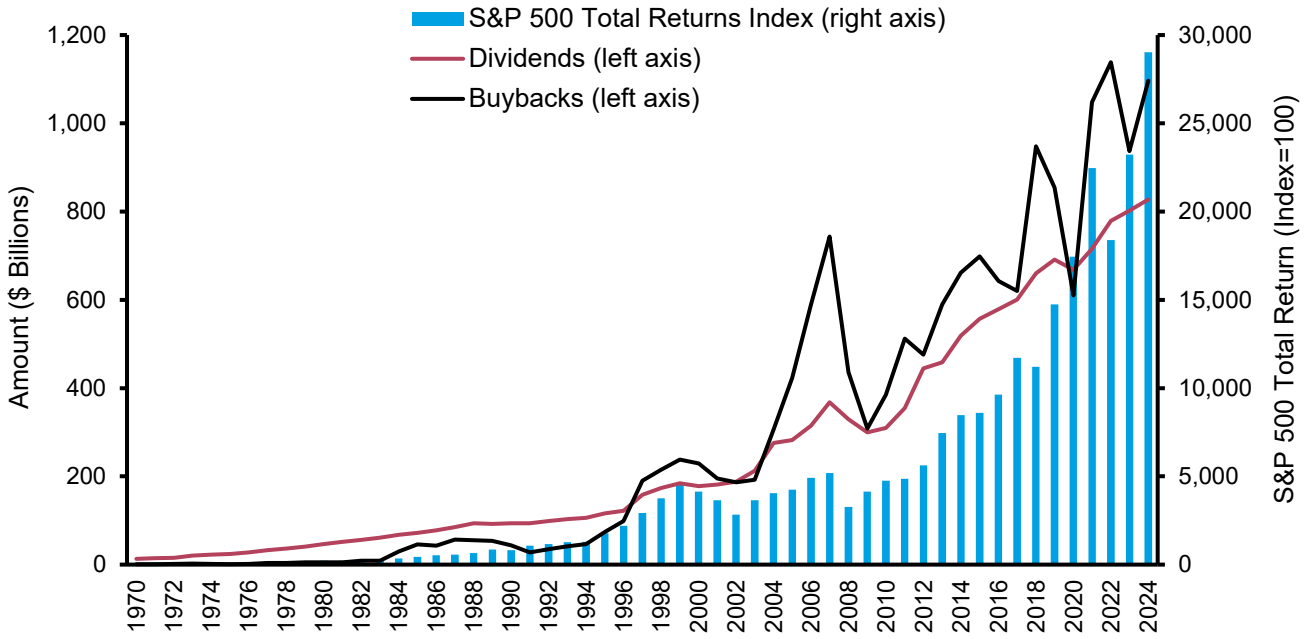
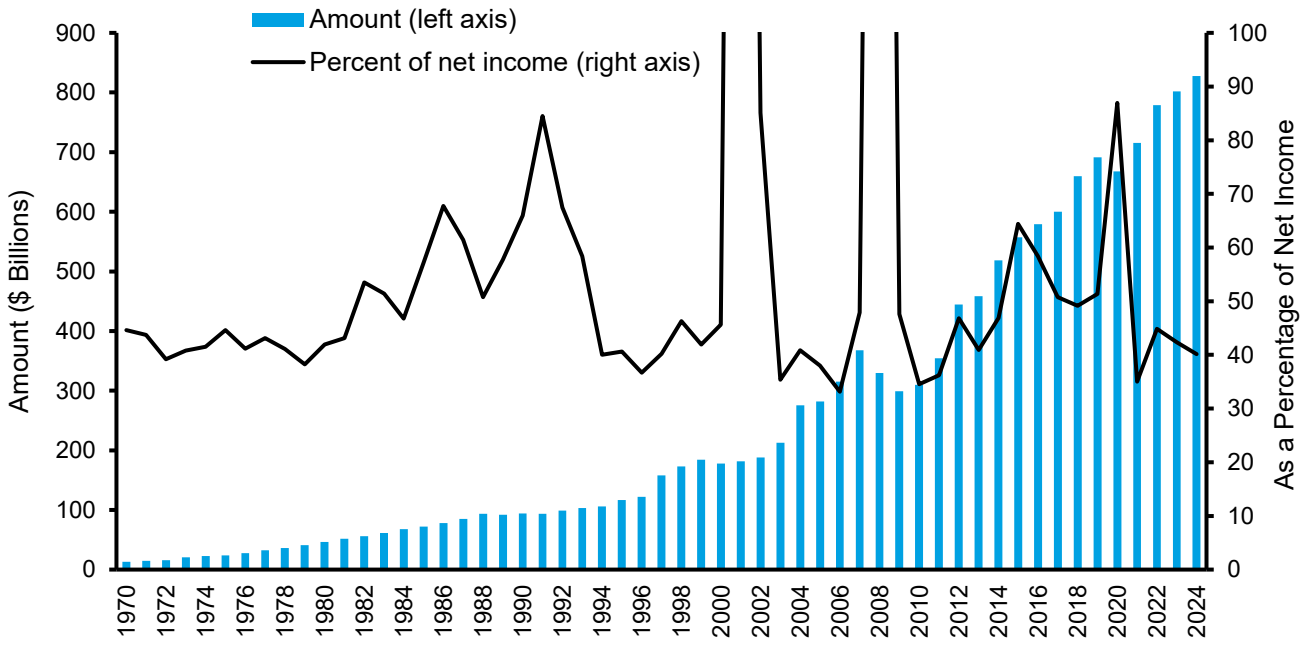
Exhibit 36: Dividends and Buybacks, 1970-2024



Source: Counterpoint Global; Compustat; FactSet.

Exhibit 37 shows dividends as a dollar amount and as a percentage of net income from 1970 through 2024. Dividends were remarkably resilient even during the financial crisis of 2008-2009 and the COVID outbreak in 2020.[114]

Exhibit 37: Dividends, 1970-2024



Source: Counterpoint Global; Compustat; FactSet.
Note: Vertical axis truncated for visualization.

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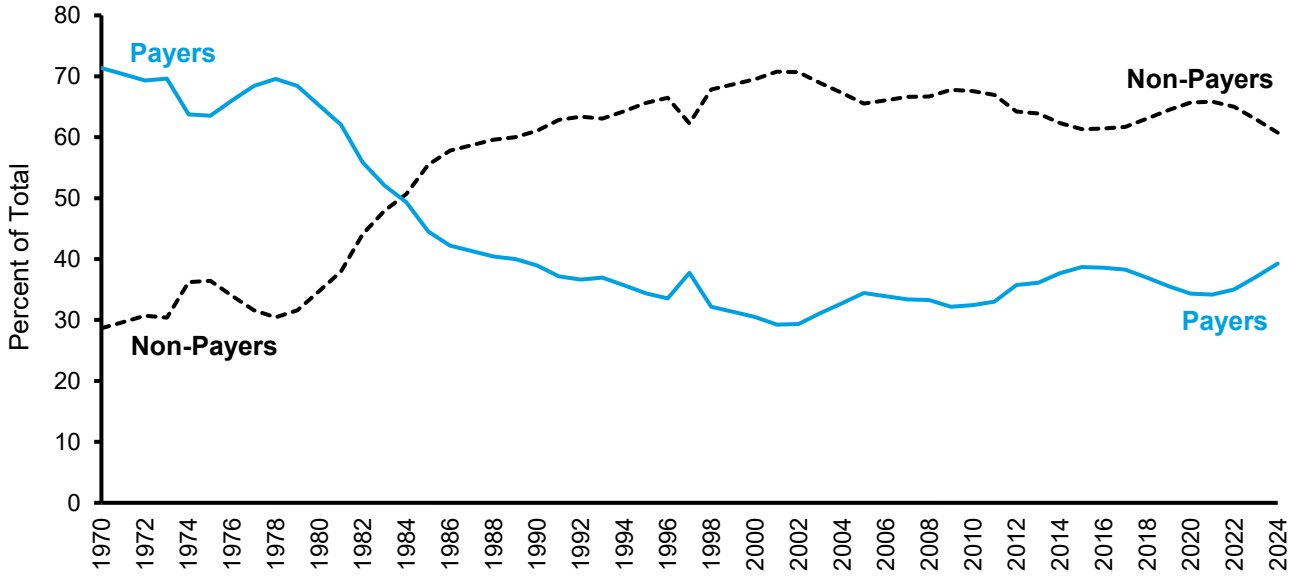
Relative to buybacks, dividends became less relevant in the 1980s and early 1990s, only to rebound somewhat in the twenty-first century. For example, 7 in 10 companies paid a dividend in the late 1970s, and just 3 out of 10 did so in 2002. That recovered to 4 in 10 by 2016, then drifted lower again, only to rise back to 4 out of 10 in 2024 (see exhibit 38).[115] This analysis counts common and preferred dividends.

The greater proclivity to pay out capital, both in the form of dividends and buybacks, reflects the fact that public companies in the U.S. are more mature and more profitable than they were in previous eras.[116]

Exhibit 38: Dividend Payers and Non-Payers, 1970-2024



Source: Compustat; FactSet; Counterpoint Global estimates.
Note: Includes companies on the NYSE, Nasdaq, and NYSE American stock exchanges; Based on calendar years.

When surveyed, chief financial officers (CFOs) cite the stability and sustainability of earnings, as well as the preference of their investors, as the most important factors determining dividend payout policy.[117] In effect, dividends remain a useful signal of confidence in future earnings because a company must generate cash flow beyond its basic needs to sustain a dividend.[118]

Dividends are also perceived to be an important input into the calculation of total shareholder return (TSR). For example, in his latest edition of *Stocks for the Long Run*, Jeremy Siegel, a professor emeritus from the Wharton School at the University of Pennsylvania, examines long-term results for the stock market and asserts that "dividends are by far the most important source of shareholder return."[119] This is wrong if you seek to measure accumulated capital. Price appreciation is the only source of investment return that increases accumulated capital over time.[120]

The annual equity rate of return, stock price change plus dividend yield, is easy to calculate. But TSR is a multi-period measure that assumes all dividends are reinvested in the stock. If you know the price appreciation and dividend yield, you calculate TSR as follows:

Total shareholder return (TSR) = Price appreciation + [(1 + price appreciation) × dividend yield]

A one-year equity rate of return is always lower than the TSR if the price rises due to the compounding of reinvested dividends. For example, assume price appreciation of 8 percent and a dividend yield of 3 percent. The equity rate of return is 11.00 percent (.08 + .03) but the TSR is 11.24 percent (.08 + [(1 + .08) × .03]).

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An investor must reinvest dividends back into the stock in full to earn the TSR. There are two problems with this. Investors generally do not reinvest their dividends back into the stock and TSR does not consider the role of taxes and other transaction costs.

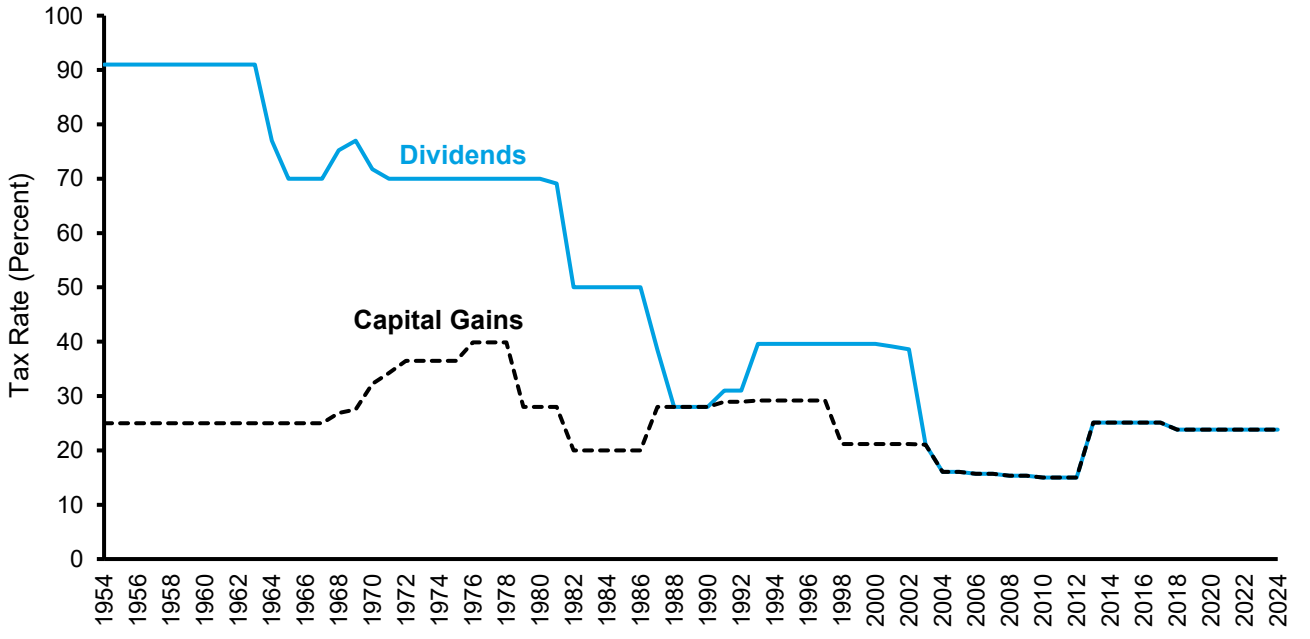
Substantial research in recent years shows that few institutional or individual investors reinvest their dividends in the stock of the payer.[121] Investors do not think of price appreciation and dividends in the same way. Further, many investors and market commentators fall for the "free dividends fallacy," which deems dividends to be a buffer against price fluctuations without recognizing that dividends come at the expense of the price level.[122]

Using different assumptions about reinvestment, some academics conclude that TSRs are understated while others contend they are overstated.[123] This underscores the importance of understanding how investors actually use their dividends and makes clear that the presumption of full reinvestment is rarely correct.

Taxes are an important part of the equation. Investors who own stocks in taxable accounts must pay taxes on the dividends they receive. Exhibit 39 shows the maximum individual marginal tax rate for capital gains and dividends from 1954 to the present. Assuming that only the non-taxed portion of dividends are reinvested drops the TSR. Academic research supports the view that the tax rate on payouts affects shareholder returns.[124]

Dividends for the companies in our universe grew in the mid-single digits in the first half of 2025 relative to the prior year.

Exhibit 39: Maximum Federal Tax Rates for Capital Gains and Dividends, 1954-2024



Source: Urban-Brookings Tax Policy Center: www.taxpolicycenter.org/statistics/historical-individual-income-tax-parameters.

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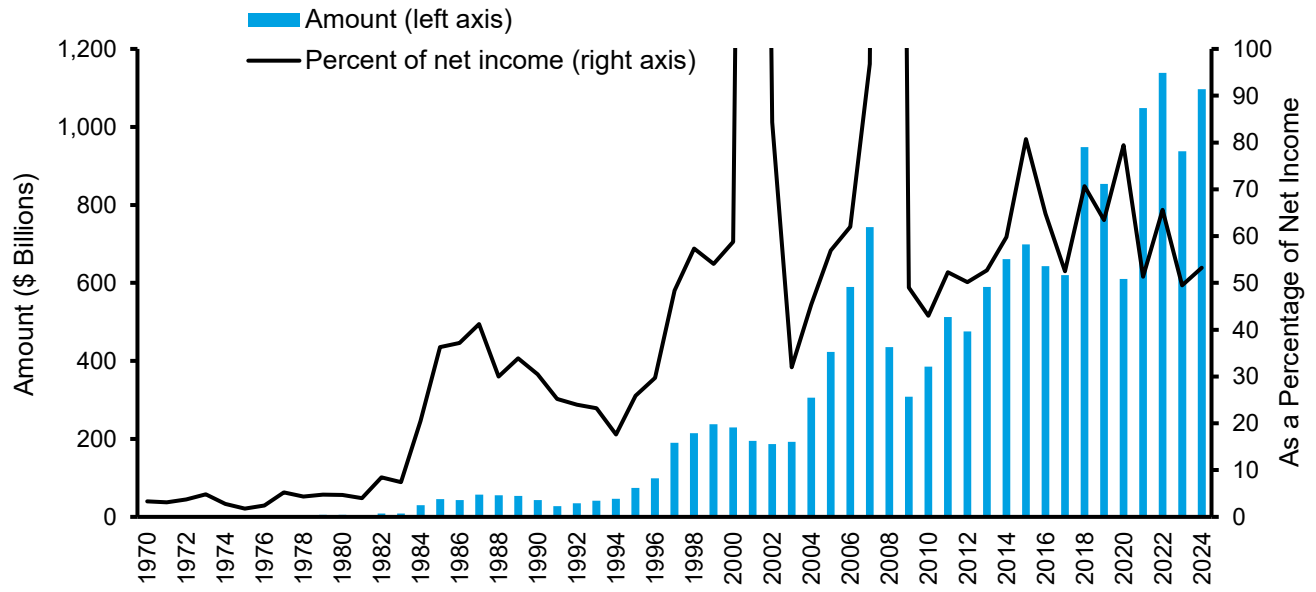
Share Buybacks. Share buybacks are the second way that firms return cash to shareholders. All shareholders are treated equally with a dividend, but only those shareholders who sell to the company get cash with a buyback.

Buybacks have become a lightning rod for politicians and a minority of economists who do not appear to understand how buybacks work and what the research says about them.[125] Ken French, a professor of finance, has noted, "Buybacks are divisive. They divide people who do understand finance from people who don't."[126]

In one manifestation of this vitriol, the Inflation Reduction Act of 2022, signed into law in August of that year, includes a one percent excise tax on buybacks (net of issuance, including stock-based compensation). This tax is not of great economic consequence but does make buybacks subject to three rounds of taxes: corporate and excise taxes paid by companies, and capital gains taxes paid by investors.

Exhibit 40 shows buybacks as a dollar amount and as a percentage of net income from 1970 to 2024. The percent of net income that companies are paying out in buybacks was meaningfully higher in the second half of this period than it was in the first half.

Exhibit 40: Share Buybacks, 1970-2024



Source: Counterpoint Global; Compustat; FactSet.
Note: Vertical axis truncated for visualization.

Buybacks have become much more prominent in recent decades, but companies have used them for a long time. For example, in 1962 companies on the New York Stock Exchange bought back $1.1 billion of stock ($9.3 billion in 2024 dollars) versus $37.3 billion ($316.0 billion) in capital expenditures.[127] Discussions at that time focused on buybacks as a proportion of trading volume. The Securities and Exchange Act of 1934 prohibited the manipulation of securities prices, but what constituted manipulation was not always clear. Indeed, from time to time the Securities and Exchange Commission (SEC) charged companies with manipulating their stock through buyback programs.[128]

This changed when the SEC adopted Rule 10b-18 in 1982. The rule grants companies a safe harbor provided they follow certain guidelines for their buyback programs in terms of manner, timing, price, and volume. The SEC has updated the rules over the years to reflect market conditions. Five years prior to the enactment of Rule 10b-18, the payout via buybacks was five percent of earnings. Five years after, it was more than 40 percent.[129]

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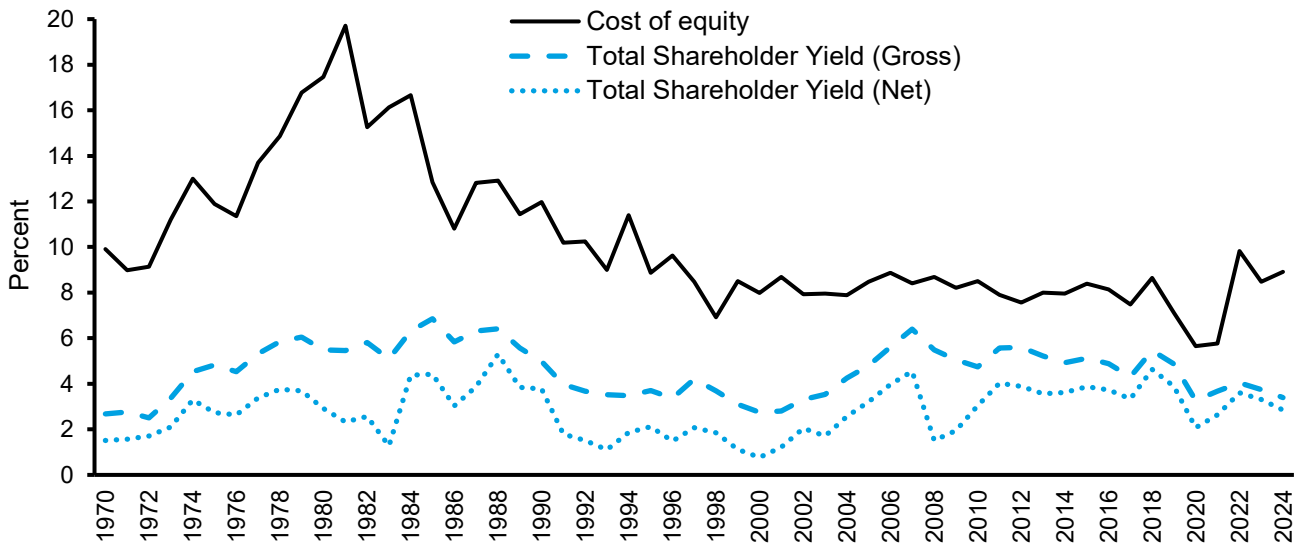
While buybacks have surpassed dividends in overall corporate payouts, the aggregate payout has been remarkably steady. Exhibit 41 shows the shareholder yield, defined as buybacks plus dividends divided by the equity capital of the market, as well as an estimate of the cost of equity, from 1970 to 2024. We show the shareholder yield gross and net of equity issuance.

Exhibit 41: Shareholder Yield and the Cost of Equity, 1970-2024



Source: Counterpoint Global; Aswath Damodaran; Compustat; FactSet.

The gross total shareholder yield went from 27 percent of the cost of equity in 1970 to 38 percent in 2024. Total shareholder yield is among the key drivers of long-run stock market returns and provides more predictability than dividend yield alone.[130]

Based on surveys of the motivations to pursue buybacks, we place companies into the fair value, intrinsic value, and accounting-driven schools of thought.[131] Companies can be motivated by more than one school at a time. The intrinsic value school is best for continuing shareholders.

The fair value school takes a steady and consistent approach to buybacks. Management believes that it will buy back shares when they are both overvalued and undervalued, but over time the average price will be fair. This approach offers shareholders substantial flexibility as it allows them to either hold shares and defer tax liabilities or create homemade dividends by selling a pro-rated number of shares.

This school also supports the free cash flow hypothesis, which says that managers who have excess cash will be tempted to invest in projects that have a negative net present value. Disbursing cash, whether through a buyback or a dividend, lessens the risk that management will deploy the funds foolishly.[132] The research also shows that many firms would do well by buying back stock consistently.[133]

The intrinsic value school is based on the idea of market timing. Specifically, a firm should only buy back shares when they appear undervalued. To do this profitably, a company's management must have information that the stock price fails to reflect.

The challenge is that CFOs, who often have a large say in matters of financial policy, are badly miscalibrated. For example, 50-80 percent of them say the stock of their company is undervalued when surveyed in a typical quarter.[134] The most common method that CFOs cite for valuing the stock of their company is "current price relative to historic highs and lows."[135] This does not instill confidence.

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Firms in the intrinsic value school adhere to the golden rule of share buybacks: “A company should repurchase its shares only when its stock is trading below its expected value and when no better investment opportunities are available.”[136]

The golden rule sets an absolute benchmark while recognizing relative value. Buying stock below its intrinsic value is a surefire way to increase value per share. But companies should prioritize internal investment opportunities if they have higher returns than buybacks.

CFOs should ideally rank the expected value of various investment opportunities and fund them from highest to lowest. In reality, CFOs list “having extra cash/liquid assets” as the most important factor determining their decision to buy back stock.[137]

To be clear, buying back undervalued or overvalued stock does not create or destroy value for the company. It transfers wealth from one group of shareholders to another. A company that buys back undervalued stock transfers wealth from the sellers to the ongoing holders. A company that buys back overvalued stock transfers value from the ongoing holders to the sellers.

Exhibit 42 presents a simple example. The firm value is $100,000 and there are 1,000 shares outstanding, which means that the intrinsic value per share is $100 ($100,000 ÷ 1,000). The company decides to return $20,000 to shareholders. We show three scenarios. We can see what happens if the stock price deviates meaningfully from intrinsic value or if the company pays a dividend.

The first thing to recognize is that the value of the firm following the disbursement will be $80,000. There is no value created or lost. Before the payout the firm is worth $100,000, and after the payout the firm is worth $80,000 and shareholders have $20,000 in their pocket. We want to understand the wealth transfers.

Let’s start with the assumption that the stock price is $200, double the fair value. In scenario A, the company buys 100 shares ($20,000 ÷ $200), which leaves $80,000 of corporate value and 900 shares outstanding. The selling shareholders gain $100 per share ($200 proceeds - $100 value = $100) and the continuing shareholders lose $11.11 per share ($88.89 continuing value - $100 initial value = -$11.11). Buying back overvalued stock benefits sellers at the expense of ongoing holders.

Now we look at what happens if the stock trades at $50 per share, one-half of its fair value. The company can buy 400 shares in scenario B. This leaves $80,000 of value and 600 shares outstanding. The selling shareholders lose $50 per share ($50 proceeds - $100 value = -$50) and continuing shareholders gain $33.33 per share ($133.33 continuing value - $100 initial value = $33.33). Buying back undervalued stock benefits the ongoing holders at the expense of sellers.

To complete the analysis, scenario C considers the case when the company pays a $20 dividend to all shareholders. The stock price does not matter. The firm value drops to $80,000, each shareholder receives $20 per share ($20,000 ÷ 1,000), and only tax considerations will determine how much each shareholder can keep.

Other features of this analysis are worth pointing out. First, if you own shares of a company buying back stock, inaction is equivalent to increasing your percentage ownership in the company. If you do not want your percentage stake to rise, you can sell shares in proportion to your ownership position. This effectively creates a dividend while maintaining the same percentage ownership in the business.

Some investors, curiously, claim they prefer that the companies they hold in their portfolio pay a dividend rather than buy back stock. Perhaps the focus is on the signal a dividend conveys. But if you own shares of a company because you correctly think it is undervalued, buybacks will by definition increase value per share.

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Exhibit 42: How Selling and Continuing Shareholders Fare in Different Scenarios

Assumptions	Base	Scenario A Assume buyback @ $200	Scenario B Assume buyback @ $50	Assumptions	Scenario C Assume dividend of $20
Buyback amount		$20,000	$20,000	Dividend amount	$20,000
Firm value	$100,000	$80,000	$80,000	Firm value	$80,000
Shares outstanding	1,000	1,000	1,000	Shares outstanding	1,000
Current price	$100	$200	$50	Current price	$100
Shares post buyback		900	600		
Value/share	$100	$88.89	$133.33	Value/share	$80.00
				Dividend/share	$20.00
Selling shareholders		100	400		
		$200	$50		
Value to sellers		$20,000	$20,000		
				Ongoing	
Ongoing shareholders		900	600	shareholders	$80,000
		$88.89	$133.33	Dividends	$20,000
		$80,000	$80,000		
Total value		$100,000	$100,000	Total value	$100,000
Per share +/- sellers		$100.00	($50.00)		
Per share +/- holders		($11.11)	$33.33		

Source: Michael J. Mauboussin and Alfred Rappaport, Expectations Investing: Reading Stock Prices for Better Returns—Revised and Updated *(New York: Columbia Business School Publishing, 2021),196.*

While it would be reasonable to doubt management's ability to time the market, the empirical research converges on some conclusions. First, on average companies can time the sale and purchase of equity so as to benefit ongoing shareholders.[138] But the wealth transfers are generally larger for sales of overpriced equity than they are for purchases of undervalued equity.[139] Finally, institutional investors are usually more adept than individual investors at transacting with companies.[140]

Buybacks and equity issuance tend to be useful signals to investors, and 85 percent of financial executives agree or strongly agree that "repurchase decisions convey information about our company to investors."[141] A few factors determine the strength of the signal.

Completing programs that are announced is a good start. The method of buybacks also signals conviction. Open-market purchases, the most commonly used by far, signal the weakest conviction. Dutch auctions and tender offers are now rare but suggest a strong positive signal, especially when the buyback is funded with debt.[142] Finally, large programs convey more information than small ones do, and the credibility of the signal rises if there is high insider ownership and executives indicate that they do not intend to sell any shares.[143]

The principal-agent problem and its associated agency costs show up in the discussion of buybacks. Buybacks have the potential to either solve or create agency costs.[144] They solve agency costs by returning capital to shareholders, thus limiting the potential for value-destroying investments. They create agency costs when buybacks are used as a means to enrich executives or simply to make them look good.

The accounting-driven school uses buybacks to improve accounting outcomes, including increasing earnings per share or reducing dilution associated with stock-based compensation (SBC). For example, in one survey,

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76 percent of CFOs said that increasing EPS was an important, or very important, factor in the decision to buy back stock. And 68 percent indicated that offsetting dilution from SBC was important or very important.[145] Research suggests that more than one-third of buybacks in recent years have gone to counter the increase in shares as the result of SBC.[146]

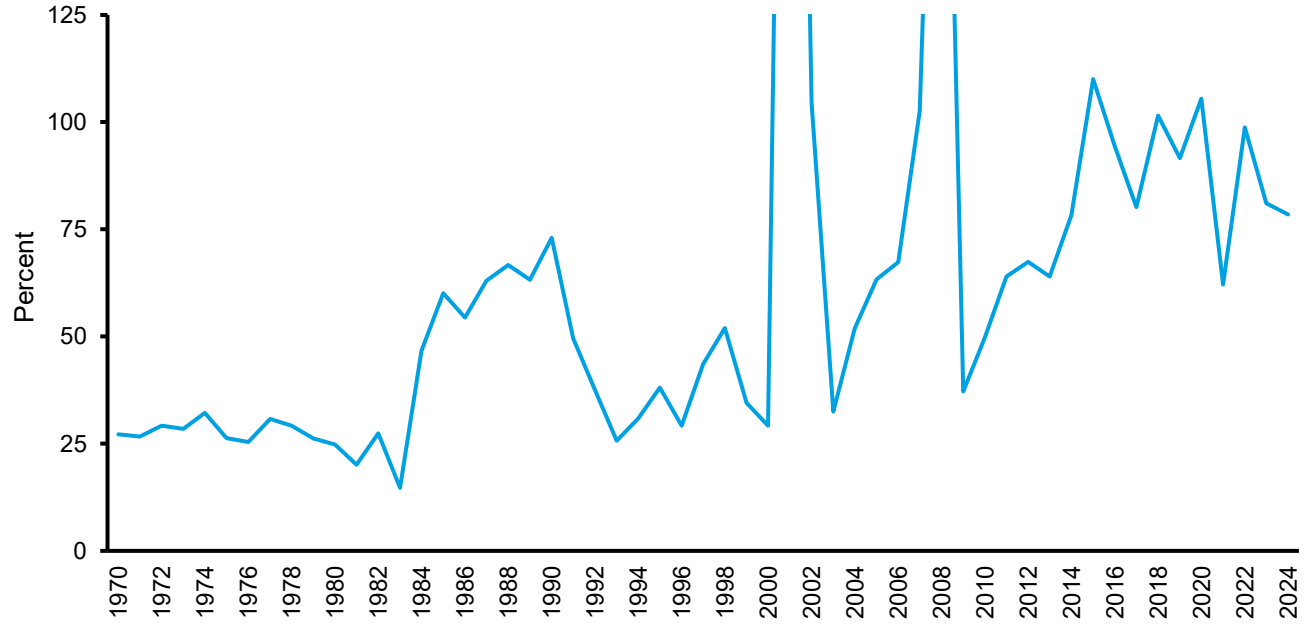
As we saw with M&A, there is no evidence that increasing EPS increases shareholder value with buybacks.[147] Value creation and changes in EPS are separate concepts, and EPS increases should not be used as a proxy for value creation. Indeed, the presumption that buybacks always increase EPS is wrong. A buyback's impact on EPS is a function of the price-earnings multiple and the foregone after-tax interest income or after-tax cost of debt used to fund the program.[148]

While results of the accounting-driven school may be benign, the motivations are impure and create agency costs if they conflict with the principle of value creation. There is plenty of evidence that companies buy back stock to manage earnings or to reach a financial objective that prompts a bonus.[149] These goals are inconsistent with the idea that management should allocate capital so as to create value for shareholders.

Knowing about management's thought process and incentives can help in assessing the value-creating potential of buybacks. In reality, most companies are in more than one of the schools we described. But investors should flag those companies making decisions based on the accounting results rather than on the economic merits.

Returning capital to investors through dividends or buybacks allows for the reallocation of capital from opportunities that are less promising to those that are more promising.[150] This is a vital function in a free market system. Exhibit 43 shows the total net payout ratio, defined as dividends plus net share buybacks divided by net income, from 1970 to 2024. Overall the ratio was much higher in the second half than the first half of this period.

Exhibit 43: Total Net Payout Ratio, 1970-2024



Source: Counterpoint Global; Compustat; FactSet.
Note: Vertical axis truncated for visualization.

Share buybacks were up about 13 percent in the first half of 2025, versus 2024, for the companies within our universe. Most of that increase came in the first quarter, with the second quarter relatively flat year-over-year.

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Assessing Management's Capital Allocation Skills

In an ideal world, corporate executives would allocate capital to maximize long-term value per share. But, for reasons that are mostly understandable, there's a lot of evidence they fall short of this objective.[151]

In his 2022 presidential address to the American Finance Association, John Graham, a professor of finance at Duke University, provides an excellent summary of how financial executives actually make decisions based on their survey responses over decades:[152]

- CFOs adopt conservative policies. For example, the average hurdle rate for a project is 600 basis points in excess of the cost of capital in order to accommodate the potential miscalculation of prospective cash flows. Further, dividends are set using a payout ratio that allows for earnings declines while preserving the commitment. Capital structures are also targeted to be below the optimal level of debt so as to build in resilience.
- The forecasts of managers suffer from overprecision, a form of overconfidence.[153] While the forecast averages tend to be fine, the assessment of the projected range of outcomes is vastly narrower than what actually occurs. Conservative policies are in part an attempt to counterbalance this overprecision.
- Decision making is sticky. We saw this in the introduction with how capital is allocated to divisions in a very consistent fashion from year to year. CFOs tend to maintain their estimates of the cost of capital and the blend of debt and equity financing even in the face of large changes in interest rates.
- Companies generally employ simple decision rules. For example, CFOs rely more on the current price relative to historic highs and lows than on an internal valuation. Further, the capital-asset pricing model (CAPM) is by far the most common way to estimate the cost of equity capital despite the model's empirical limitations.
- Paying dividends, once initiated, is as important as funding investment. More than 60 percent of CFOs said they would not cut dividends to fund a value-creating investment alternative. Those who indicated they would consider reducing the dividend to invest in the business suggested they would need to earn an ROIC of at least 19 percent, more than double the cost of capital for most companies.
- In recent decades there has been a shift away from shareholder primacy toward stakeholders. Firms that score high in stakeholder orientation rank employees and customers ahead of shareholders.

With these findings in mind, we outline a four-part framework for assessing the quality of a management team's capital allocation skills. We start with past capital allocation actions. As Warren Buffett notes, "After ten years on the job, a CEO whose company annually retains earnings equal to 10% of net worth will have been responsible for the deployment of more than 60% of all the capital at work in the business."[154]

Next, we suggest studying a company's ROIC and return on incremental invested capital (ROIIC). A careful study of a company's corporate governance and incentives is the third part. Finally, we examine how a management's past decisions stack up against five principles of capital allocation.

Past Spending Patterns. We begin our assessment by looking at how management has spent money in the past. We examine investment (M&A, investment SG&A ex-R&D, capital expenditures, investment R&D, and working capital) and payout policy (dividends, buybacks, and debt prepayment) separately.

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The value of a business is the present value of future free cash flow (FCF), defined as net operating profit after taxes (NOPAT) minus investment in future growth. In a traditional calculation, NOPAT is driven by sales and sales growth, operating profit margins, and the cash tax rate.

Investment is driven by changes in working capital, capital expenditures net of depreciation, and acquisitions net of divestitures. Note that investment SG&A ex-R&D and investment R&D are not capitalized in the traditional calculation. We modify the figures to do so. But free cash flow is the same with or without the adjustments.

Alfred Rappaport calls these terms “value drivers” because they determine the free cash flows that drive value in a discounted cash flow model.[155] Rappaport defines the investment value drivers as the percent the company invests in each use for every $1.00 change in sales. This allows for us to compare the measures.

For instance, if a firm’s net working capital grows by $200 in a given year and its sales grow by $1,000, the incremental working capital rate is 20 percent ($200 ÷ $1,000). If capital expenditures are $500 and depreciation is $200, the incremental fixed capital rate is 30 percent ([$500 - $200] ÷ $1,000). We can calculate the value driver for incremental M&A less divestitures, or any other investment, in the same way.

This allows us to study how a company actually invested in the past. The further we can go back the better, and it is useful to note which executives were in charge of the capital allocation decisions. Here are the numbers for Microsoft, a multinational technology company, for the five years ended in fiscal 2025:[156]

- Incremental M&A rate: 77.7 percent
- Incremental internally-generated intangible rate: 35.3 percent
- Incremental fixed capital rate: 107.9 percent
- Incremental working capital rate: -11.3 percent

These figures let us see instantly where the company has invested. In this case, net working capital was a source of cash. Capital expenditures were the largest use of cash, followed by M&A and internally-generated intangibles.

Here are the numbers for Cisco Systems, a digital communications company, over the past five years ended in fiscal 2025:

- Incremental M&A rate: 464.9 percent
- Incremental internally-generated intangible rate: 81.9 percent
- Incremental fixed capital rate: -6.5 percent
- Incremental working capital rate: -29.0 percent

Net working capital was also a source of cash for Cisco. But here we see the vast majority of the company’s net investment is going to M&A, investment in internally-generated intangibles is positive, and that the company’s capital expenditures are below the maintenance level. A business analyst would logically seek to understand how management makes its M&A decisions. A review of the results from past deals would also be appropriate.

Examining past capital allocation decisions also allows us to find inflection points. For instance, Microsoft’s capital expenditures have risen sharply, tripling from fiscal 2022 to 2025, to support the growth of Azure, its

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cloud computing platform. Mondelez International, a multinational food and beverage company, has freed an estimated $6 billion in net working capital by taking its cash conversion cycle from 39 days in 2013 to -30 days in 2024. Changes such as these should be integrated into a strategic analysis to assess a company's future investments and profits.

Payout policy is also important. We have established that dividends, once paid, are sticky and considered to be as important to maintain as investments in the business. Share buybacks are more volatile, and we want to understand the motivation behind them.

Let's return to our examples. For the five years ended fiscal 2025, Microsoft's total shareholder yield was 1.8 percent. The company returned $209 billion to shareholders, 48 percent in dividends and 52 percent in net share buybacks. The difference between the highest and lowest amount of dividends paid in those years was $7.6 billion, whereas the same difference for net buybacks was $15.6 billion.

Cisco's total shareholder yield was 5.5 percent for the five years ended fiscal 2025. The company returned $59 billion to shareholders, with 54 percent coming in the form of dividends and 46 percent in net share buybacks. The range from the highest to lowest dividends paid over those years was only $0.3 billion, while the dispersion for net buybacks was $4.9 billion.

We need to evaluate investment and payout in the context of a company's capital structure. Most companies maintain their target ratios of debt and equity, even when conditions suggest that a revision makes sense. Understanding the rationale and motivation for these decisions is vital. We also want to see if management's decision-making process is consistent with creating long-term value per share.

At the end of the day, executives are humans who are not always disciplined and rational. As a case in point, while most large companies say they always or almost always use the net present value rule to evaluate projects or acquisitions, the reputation of the division manager requesting resources is also important, as is senior management's "gut feel."[157]

Return on Invested Capital (ROIC) and Return on Incremental Invested Capital (ROIIC). Management's goal should be to create value by making investments that earn a return in excess of the opportunity cost of capital. ROIC is one way to measure whether a company has achieved this goal.

Our reports, "Return on Invested Capital: How to Calculate ROIC and Handle Common Issues" and "ROIC and Intangible Assets: A Look at How Adjustments for Intangibles Affect ROIC," provide a detailed explanation of how to calculate ROIC.[158] Included is a discussion of how to handle internally-generated intangible investments, which are reflected on the balance sheet as assets and then amortized on the income statement.

The numerator of ROIC is NOPAT, the same figure we saw in the calculation of free cash flow. NOPAT is the cash earnings of a business excluding the impact of interest expense from debt or interest income from excess cash. As a result, it remains the same no matter what mix of debt and equity a company selects to fund the firm.

Invested capital is the net assets a company needs to generate NOPAT or, equivalently, the combination of debt and equity a company uses to finance those assets. The investment in each year determines the change in invested capital. In this way, we can see the links between free cash flow and ROIC. Investment is subtracted from NOPAT to determine free cash flow. NOPAT is the numerator of ROIC. And invested capital is accumulated investment.

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An ROIC above the cost of capital indicates that a company is creating value. For example, say a company has NOPAT of $150, invested capital of $1,000, and a cost of capital of 7 percent. That company's ROIC of 15 percent ($150 ÷ $1,000) would be well in excess of the 7 percent cost of capital. A business with the same invested capital earning $50 would have an ROIC of 5 percent ($50 ÷ $1,000), below the cost of capital.

Exhibit 25 showed the ROICs with and without an adjustment for internally-generated intangible assets. The data exclude companies in the financial sector and cover the period from 1970 through 2024. The ROICs exceeded the cost of capital for about one-half of the observations, based on adjusted calculations, for companies with a minimum of $100 million in sales (in 2024 dollars).

The market looks forward and sunk costs do not determine future value. Accordingly, we want to understand change on the margin. Return on incremental invested capital (ROIIC) allows us to do this. ROIIC measures the change in NOPAT relative to the change in invested capital. While the calculation ignores sunk costs, it makes the strong assumption that the return on the existing invested capital is unchanged. This is often unrealistic.

Here is the calculation for ROIIC:

$$\text{Return on incremental invested capital (ROIIC)} = \frac{\text{Year}_1 \text{ NOPAT} - \text{Year}_0 \text{ NOPAT}}{\text{Year}_0 \text{ invested capital} - \text{Year}_{-1} \text{ invested capital}}$$

ROIIC seeks to quantify how the investments made in one year affect the NOPAT in the following year.

One of the limitations of ROIC and ROIIC is that the results can be very noisy. This is especially true for companies that make large investments sporadically in contrast to firms that invest steadily over time. This is why ROIC is typically a poor way to assess M&A. Once the deal is done, the denominator, invested capital, goes up right away while the numerator, NOPAT, reflects the deal's cash flows only over time.

As an example, consider Microsoft's acquisition of Activision Blizzard, a video game company, for $69 billion. Completed during fiscal 2024, the deal resulted in Microsoft's traditional invested capital increasing around 30 percent, and its invested capital adjusted for internally-generated intangible assets swelling by more than 20 percent, from fiscal 2023 to 2024.

The way to moderate the volatility of ROIIC is to calculate it over periods of three or five years. For example, the three-year rolling ROIIC takes the change in NOPAT over the last three years (Year_3 NOPAT – Year_0 NOPAT) and divides it by the lagged change in invested capital (Year_2 invested capital – Year_{-1} invested capital). Microsoft's rolling three-year ROIIC from fiscal 2021 to 2025 is shown in exhibit 44.

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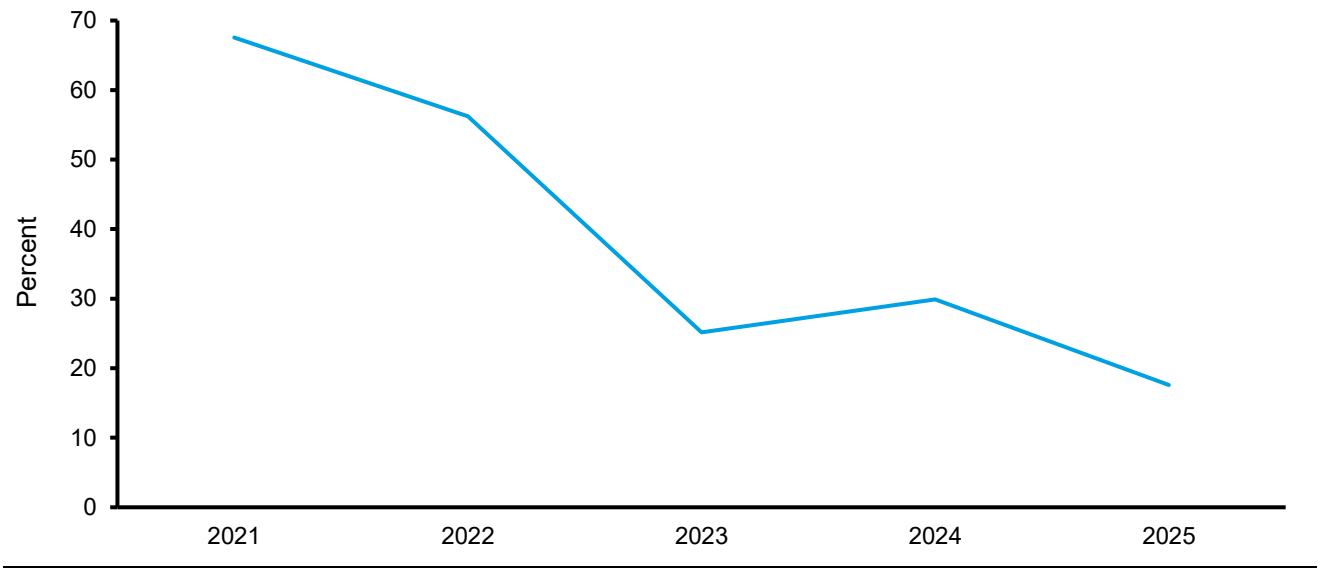
Exhibit 44: Microsoft's 3-Year Return on Incremental Invested Capital, 2021-2025



Source: Microsoft Corporation and Counterpoint Global.

Rising or high ROIICs can signal either that a business is improving its capital efficiency or that it is enjoying a period of positive operating leverage. Operating leverage is measured as change in NOPAT divided by change in sales and indicates how well a business is absorbing its fixed costs. Operating leverage can be positive or negative and is usually transitory. That said, managers and investors recognize operating leverage with a lag, which can provide opportunity.

Corporate Governance and Incentives. Executives are ultimately responsible for capital allocation. As a result, it is important to assess their motivations and incentives. The ideal is a company that has senior leadership, including the CEO and CFO, who have a "North Star of value." The North Star provides a dependable sense of direction because it is readily visible in the sky when it is dark and is stable throughout the night and year.

Executives without a North Star can be swayed by the differing and sometimes conflicting points of view that they hear from shareholders, stakeholders, investment bankers, and the media. Executives grounded by the discipline of building long-term value per share maintain a steady course and use the asymmetric information they have about the business to the advantage of ongoing shareholders.

An understanding of a company's governing objective, a clear statement of what a company is fundamentally trying to achieve, is essential. The objective guides a firm's culture, communications, compensation, and capital allocation. It should also provide insight into a company's time horizon. Corporate governance is a system of checks and balances used to make sure that executives faithfully serve the company's governing objective.[159]

The governing objective commonly focuses on shareholders or stakeholders. In recent years companies have shifted their orientation toward stakeholders. We believe this is a false choice.[160] Companies that seek to build long-term shareholder value need to take care of all of their stakeholders, including employees, customers, and suppliers. Creating long-term value is also consistent with minimizing negative externalities and working with lawmakers and regulators.

The governing objective is important because it guides decisions about the inevitable trade-offs that executives face. A clear objective also provides stakeholders with the basis to opt in or opt out of involvement with the company and allows outsiders to evaluate the choices that managers make.

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Investors keen to find companies intent on building long-term value need to consider agency costs[161] Scholars point out three areas where these costs create conflict between the interests of managers and shareholders.[162]

The first is what maximizes value for management may be different from what maximizes value for shareholders. In general, executives earn more when they control more resources. For instance, they may have an incentive to do M&A deals even if they destroy value or avoid divestitures even if they create value.

Risk tolerance is another source of potential conflict. Most investors hold shares of a company as part of a diversified portfolio, commonly through a mutual fund or exchange-traded fund. The wealth of most executives is largely invested in the shares of their company. As a consequence, executives may seek less risk than what the shareholders would deem appropriate. That CFOs pursue conservative policies supports this view.

The final area of conflict deals with time horizon. Mismatches arise when the time horizon of compensation plans are shorter than the time horizon investors use to assess the attractiveness of an investment. For instance, nearly 80 percent of financial executives said they would be willing to pass on a value-creating investment in order to make near-term earnings.[163]

Executive compensation is one way to align the interests of managers and shareholders. But creating a scheme that provides managers with the proper incentives to create long-term value is difficult. We can start by examining the extremes.

Compensation that is completely independent of value creation provides no incentive to build value in the first place. We are far from this. More than 60 percent of CEO pay for the top 100 public companies in the U.S. is in the form of stock options or stock awards and long-term incentive plans. This form of pay is more than one-half of total compensation for the top 3,000 public companies in the U.S.[164]

The other extreme is when the CEO owns all of the non-public shares. This should allay concerns about agency costs. But note the distinction between control of voting rights and economic ownership. Research shows that companies with dual-class stock, where one class of stock has more votes per share than the other, can give rise to agency costs.[165] Founders generally own the class of shares that allow for multiple votes, effectively establishing control over the company.

The rate of growth in CEO pay in the U.S. has been well in excess of that for rank-and-file employees and of overall economic growth. Compensation for CEOs over the past 40 years has shifted from mostly salary and bonus to mostly stock. CEO wealth is increasingly sensitive to changes in the stock price.[166] Today, a 1 percent change in stock price leads to about a 1.5 percent change in wealth for the average CEO of a top 100 public company in the U.S.[167] The shift toward stock-based compensation may appear to reduce agency costs but it can introduce other challenges.

The first issue is that the form of employee pay can itself affect capital allocation. This shows up most directly in share buybacks.[168] To put this in context, companies in the U.S. reported expense for SBC of $314 billion and gross share buybacks of $1.1 trillion in 2024. As noted earlier, more than three-quarters of CFOs said that offsetting dilution from SBC was an important or very important reason to buy back stock.

Exhibit 45 shows the average SBC as a percentage of sales for U.S. companies, ranked by size. SBC as a percentage of sales tends to decline as companies get bigger. SBC is roughly 7 percent of sales, on average, for the smallest companies but only about 1 percent for the largest companies. The median ratios of SBC to sales are lower on an absolute basis and follow a similar path.

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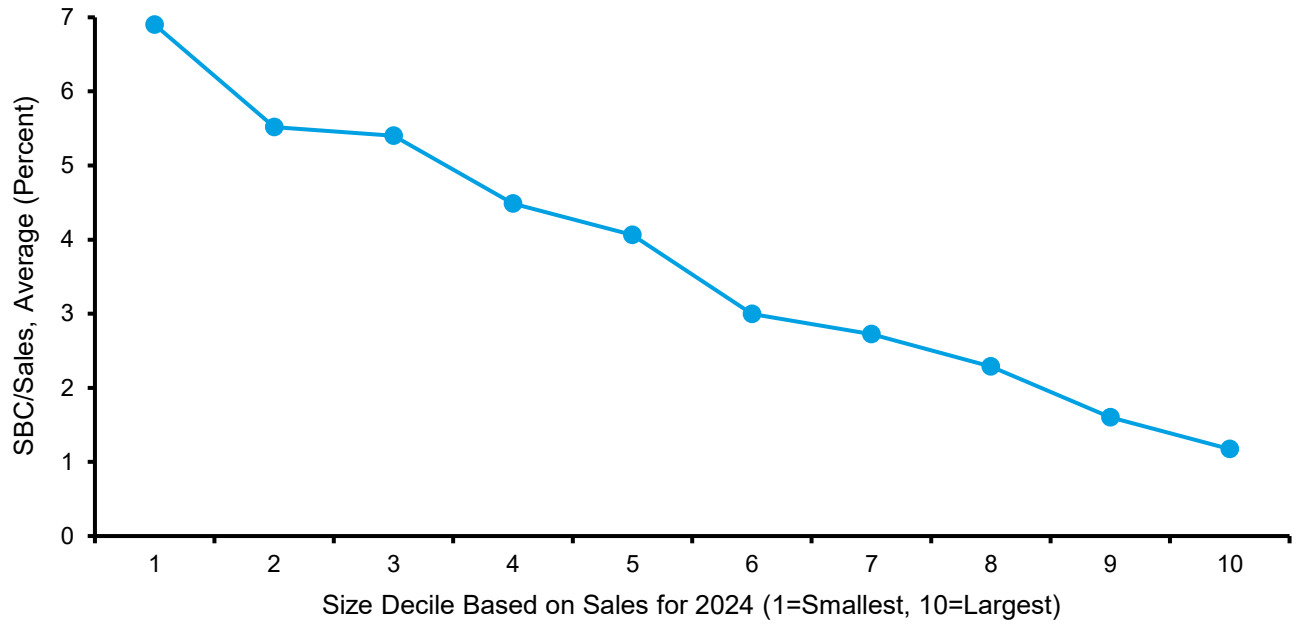
Exhibit 45: SBC/Sales Based on Size, 2024



Source: Counterpoint Global; FactSet.
Note: Based on calendar year; Minimum sales of $100 million.

The relevance of SBC also varies a great deal by sector. SBC issuance for information technology and healthcare, for instance, is vastly higher than that for materials or consumer staples (see exhibit 46). Management should evaluate the virtue of a stock buyback program independent of its compensation policy. But companies link the two in reality.

Exhibit 46: Stock-Based Compensation as a Percentage of Sales by Sector, 2024

Sector	Average	Median	Aggregate
Information Technology	9.5	6.2	4.5
Healthcare	8.0	3.5	1.0
Communication Services	5.0	2.6	4.4
Real Estate	2.6	1.7	1.7
Financials	2.1	1.1	1.8
Energy	1.3	1.0	0.6
Consumer Discretionary	1.7	0.8	1.5
Industrials	1.6	0.7	0.7
Consumer Staples	1.2	0.6	0.4
Materials	1.3	0.6	0.5
Total	**3.7%**	**1.1%**	**1.7%**

Source: Counterpoint Global; FactSet.
Note: Based on calendar year; Minimum sales of $100 million.

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Whether SBC is doing a good job of focusing management on long-term performance is a topic of spirited debate.[169] Competing theories for the drivers of CEO pay, including shareholder value maximization, rent extraction, and other institutional factors, all have some support in the research.[170] But SBC is effectively limited by a number of considerations.

To begin, a company's stock price is only a crude measure of corporate performance. Other drivers of price, including general economic conditions, changes in interest rates, inflation expectations, and the equity risk premium, can be more important than corporate results. These external factors are mostly out of the control of management.[171]

Further, the information the stock market provides to managers regarding investment opportunities, current capital allocation decisions, and past capital allocation decisions can be very noisy in the short run.[172] We saw that with the initial reactions to M&A deals. They were on average correct directionally and relatively unbiased but also wrong from time to time. This problem is compounded by the reality that few executives understand the expectations for future financial results that the stock market reflects.[173]

We will return to these considerations in a moment. But before we do, we can look at the most common performance-based long-term incentive metrics that companies use. Exhibit 47 shows the results over the past 5 years of an annual survey of the largest 250 companies in the S&P 500 by FW Cook, a consulting firm dedicated to executive compensation. TSR has emerged as the top incentive metric in recent years. Measures that follow are linked to traditional profit, such as earnings per share, and capital efficiency.

Exhibit 47: Most Commonly Used Performance-Based Long-Term Incentive Metrics

	2024	2023	2022	2021	2020
Total shareholder return	73%	72%	72%	69%	67%
Profit (EPS, etc.)	53	53	56	53	55
Capital efficiency	34	37	37	38	38
Revenue	25	25	23	25	23
Cash flow	16	19	16	16	15
Other	23	20	18	16	14

Source: FW Cook, "Top 250 Report" for each year from 2020-2024.

That TSR leads the list may be encouraging. However, some caution is in order. As we discussed earlier, TSR can be a misleading measure of actual shareholder return. That can create a gap between what triggers executive pay and the returns that shareholders earn.

Further, TSR is relevant only if management knows how to create value. Throughout our discussion we have seen many instances where the decisions of management are inconsistent with building long-term value.

Finally, external factors may be more important than company-specific drivers in determining the TSR. TSR fails in cases when it is used as a measure that is absolute, versus relative to an appropriate benchmark, because it does not isolate the results of the firm.

Companies with a proper North Star seek to create long-term value per share with the belief that stock price ultimately follows value. In the case that the price does not properly reflect the value, management can refine

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its communication with the financial community or take action by buying or selling stock. There is also good evidence that companies that are clear on their mission to create long-term value and spread that message effectively attract quality shareholders. In these cases, shareholders resemble business partners as their goals and expectations are aligned with those of management.[174]

Incentive compensation is part of the corporate governance structure that supports a governing objective. If the governing objective focuses on creating long-term value per share, compensation will have a handful of features that support judicious capital allocation.[175]

Boards should design compensation for senior executives so that stock options or restricted stock units are indexed to the overall market or a proper set of peers. Indexing helps to reduce the role of luck and isolates the contribution of skill if external factors have a similar impact on the peers as they do on the focal firm. An employee's incentive compensation should relate to what he or she can control. This reduces the number of employees eligible for stock-based compensation to those who can influence the stock price.

Most employees have little individual sway over the stock price. Accordingly, compensation for executives and front-line employees involved with an operating unit should be based on long-term goals for the unit's operating value drivers, including sales growth, operating profit margins, and some measure of return on invested capital.

Value drivers that are too coarse can be refined into "leading indicators of value," measures that roll up to the value drivers. For instance, leading indicators of value for a retailer seeking to open ten stores in a year might include identifying store locations and signing leases. The incentives align with what the employees can control.

As Warren Buffett has written, a good plan "should be (1) tailored to the economics of the specific operating business; (2) simple in character so that the degree to which they are being realized can be easily measured; and (3) directly related to the daily activities of plan participants."[176]

The debate about the short term versus the long term is largely hollow.[177] Some investments pay off quickly and others pay off in the distant future. The objective should always be to maximize long-term value per share.

Still, there is little doubt that executives and investors feel short-term pressure. There is also a lot of evidence that sorting occurs, where short-term oriented investors seek companies that offer lots of "information events" and trading opportunities, and long-term oriented investors try to find companies with a true North Star of value.[178] Research supports the idea that long-term investors strengthen governance and reduce managerial misbehavior.[179]

Many companies would appear to benefit from adopting a longer time horizon than the one they use. Exhibit 48 shows the trade-off between time horizon, measured relative to the industry average, and return on assets (ROA). Return on assets is defined as net income divided by total assets. The exhibit shows that a company's ROA increases as it looks out further than its peers up to a point after which returns diminish. The model the researchers developed suggests that a lengthening of a firm's time horizon to the optimal level increases the company's predicted ROA to 4.6 percent, where the overall average ROA was 3.3 percent.[180]

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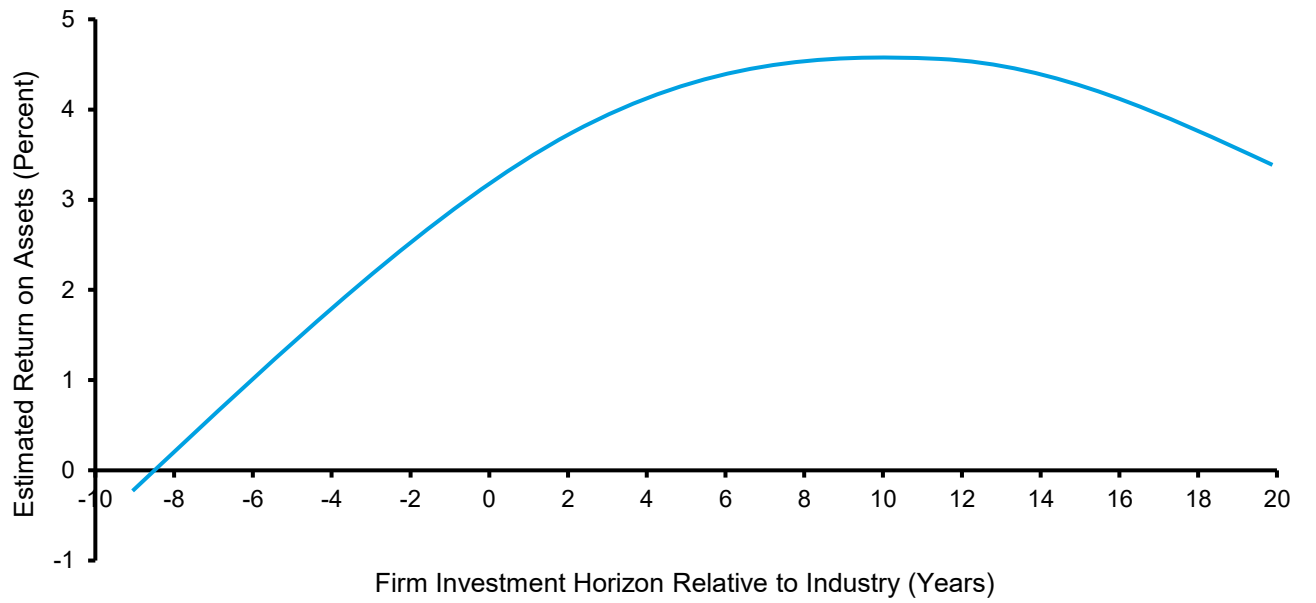
Exhibit 48: Trade-Off Between Time Horizon and Return on Assets



Source: David Souder, Greg Reilly, Philip Bromiley, Scott Mitchell, "A Behavioral Understanding of Investment Horizon and Firm Performance," Organization Science*, Vol. 27, No. 5, September-October 2016, 1202-1218.*

The flow of analysis should go from governing objective to corporate governance to incentives. The governing objective explains how companies intend to deal with the trade-offs that all businesses face and provides clues about whether management is properly focused on value. Corporate governance supports the governing objective by creating appropriate decision-making processes, structures, and incentives. Employees with the proper incentives will find that their self-interest and the governing objective are aligned.

Five Principles of Capital Allocation. James McTaggart, Peter Kontes, and Michael Mankins, management consultants, described four principles of resource allocation in their book, *The Value Imperative*.[181] We believe that these principles are useful for thinking about capital allocation. We add a fifth that emphasizes action. These principles can provide a framework to measure management's mindset with regard to capital allocation. They are also consistent with what Will Thorndike called "The Outsider's Checklist" in his excellent book, *The Outsiders*.[182]

1. **Zero-based capital allocation.** Two empirical observations from the prior discussion are relevant here. First, the vast majority of companies are below the threshold of optimal capital allocation among divisions, which means some divisions get too much investment and others too little (see exhibit 1). Second, CFOs are by nature conservative. This aversion to change can put companies out of step in a dynamic world.

   The zero-based approach asks the question, "What is the right amount of capital (and the right number of people) to have in this business in order to support the strategy that will create the most wealth?"[183] The answer is based on the future and does not rule out reducing net investment when appropriate.

   The research shows that companies that are more proactive in their internal resource allocation generate higher ROAs than those that are more conservative.[184] There is also evidence that companies that are good at internal capital allocation are also effective at external allocation.[185]

2. **Fund strategies, not projects.** Capital allocation should support a company's strategic goals. But that's not what usually happens. Small investment decisions are usually made within a business unit, medium

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decisions go to unit managers, and large decisions go to the CEO or board of directors. These are processes to control how money is spent but can fail to put decisions into a broader context.

Capital allocation should start with an assessment and approval of a strategy, and then determine which projects support it. This distinction is commonly overlooked. There can be projects that pass a rate-of-return test within a strategy that fails. There can also be projects that fail the rate-of-return test that support a winning strategy.

For example, you might imagine a company that identifies an automation project within a fulfillment center that has a high rate of return and hence gets approved for investment. At the same time, the company realizes that the industry has excess capacity and that some fulfillment centers need to be closed to support the company's strategy. That is a good project within a bad strategy.

Warren Buffett's concept of the institutional imperative is also relevant in this discussion. Often, CEOs make investment decisions first and only then make sure they have figures to support the choice. In most cases, a member of the finance team will create a spreadsheet that justifies the investment. As Buffett says, "Any business craving of the leader, however foolish, will be quickly supported by detailed rate-of-return and strategic studies prepared by his troops."[186]

A successful business strategy is supported by a bundle of projects, including some that may not look attractive on their own. What matters is the value of the bundle.

3. **No capital rationing, but earn sufficient returns on the capital you use.** Within most mature companies the practical attitude is that capital is "scarce but free." It is scarce because the amount of capital available to reinvest in the business is perceived to be constrained by the cash flow the business generates and the company's payout commitments. It is free because business leaders sometimes fail to associate an opportunity cost with the cash that the business generates internally. This is consistent with the conservatism and sticky decision-making processes that CFOs exhibit.

   A more suitable mindset is that capital is accessible but comes at a cost. Capital can come from a couple of sources beyond cash flow from operations. One is the redeploying of capital from divisions that do not earn sufficient returns, either by reducing the invested capital or selling the business outright, to divisions with strong prospects for value creation. Capital markets are also a source of capital, although the willingness to supply capital tends to be cyclical.

   The right mindset is that all capital, whether from an internal or external source, has an opportunity cost. This can present a problem when firms make decisions that add to earnings or earnings per share without properly reckoning for value.

   Stock-based compensation is also relevant in this context.[187] That SBC, a legitimate expense, is added back to cash flow from operations provides the illusion that the business is generating more cash than it is. SBC is essentially a financing activity, as the company issues equity to pay employees. SBC can be an effective way to recruit employees, address liquidity issues, and reduce agency costs. But it is a cost that needs to be considered properly.

4. **Zero tolerance for bad growth.** An investment, whether made by a business or a money manager, will succeed only with some probability. Companies that aspire to grow will sometimes allocate capital to investments that do not pay off. New businesses and products fail at a high rate. For example, Amazon,

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a multinational technology company known for its e-commerce and cloud computing operations, has a long list of failed initiatives.[188] The point is that companies should not remain wedded to a strategy or business initiative that has no prospects to create value. Doing so drains human and financial resources.

Firms should invest in innovation while cutting losses when a strategy is unlikely to pay off. This is an explicit recognition of the value of quitting.[189] Further, as we have seen, divesting businesses can be desirable because the value to the buyer is higher than the value to the seller. Exiting businesses also reduces the risk of cross-subsidization within a firm and allows for the best and brightest employees to manage the businesses that create the most value.

5. **Know the value of assets and be ready to take action to create value.** Great capital allocators always have a sense of the difference between price and value in all of their businesses. And, as important, they are willing to act to build value when those gaps become large enough to overcome frictions such as taxes and fees.

   As we mentioned at the outset, the answer to most capital allocation questions is, “It depends.” An informed view of value and price allows management to do the right thing at the right time. In some cases that means buying, in others selling, and in most cases doing nothing at all. Executives usually prefer to buy rather than sell, even though buyers generally do worse than sellers.

Conclusion

Capital allocation is an essential part of creating value and is one of management’s prime responsibilities. But not all senior executives know how to allocate capital effectively. Agency costs are one major challenge to good capital allocation. Executives, who largely control corporate resources, can make decisions that benefit them rather than doing what is in the interests of shareholders. In fact, incentive programs that are based on accounting results or are unrelated to value creation can promote decisions that are not in the best interests of long-term shareholders. We believe the appropriate objective of capital allocation is to add long-term value per share.

We started by looking at the sources of capital and observed that U.S. corporations fund most of their investments internally. We then looked at the uses of capital and saw that mergers and acquisitions (M&A), investment SG&A ex-R&D, and capital expenditures receive the largest allocations. We reviewed eight capital allocation alternatives (M&A, investment SG&A ex-R&D, capital expenditures, investment R&D, working capital change, divestitures, dividends, and share buybacks), noting the past spending and drawing on academic research to understand the prospects for value creation. We believe that the discussion of intangible investment is novel in the context of capital allocation.

We finished with a framework to assess management’s capital allocation practices. This includes looking at past behavior, calculating return on invested capital and return on incremental invested capital, an evaluation of incentives and what behaviors they may encourage, and five principles of good capital allocation that can be used as a benchmark.

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Checklist for Assessing Capital Allocation Skills

Past Spending Patterns

- □ Analyze how a company spent money in the past, separating operating uses from payouts to claimholders.
- □ Determine how the company has financed its investments.
- □ Assess management's framework for thinking about the main uses of capital.
- □ Examine whether the mix or pattern of spending has changed over time.
- □ Consider whether new management intends to allocate capital differently than what was done previously.
- □ Figure out who makes which capital allocation decision and how the capital budgeting process works.

Return on Invested Capital (ROIC) and Return on Incremental Invested Capital (ROIIC)

- □ Calculate the level and trend of ROIC.
- □ Look at ROIC versus peers and identify differences and potential sources of improvement.
- □ Compute the ROIIC over multiple periods to see if change is occurring on the margin. If so, determine how and why that is the case.

Corporate Governance and Incentives

- □ Look for evidence that management has a North Star of value.
- □ Determine whether the company has articulated a governing objective.
- □ Assess potential agency costs.
- □ Evaluate the executive compensation plan, including metrics and magnitude of pay.
- □ Ask whether compensation practices are influencing capital allocation, especially share buybacks.
- □ Judge whether the company has an appropriate time horizon.

Five Principles of Capital Allocation

- □ Assess whether capital allocation is zero-based and if the company overcomes inertia.
- □ Evaluate the company's strategies and see whether it is investing to support them rather than simply focusing on projects.
- □ Determine the company's attitude about the cost of capital and access to capital.
- □ Look at whether the company is willing to exit businesses that don't create value.
- □ Ask whether management knows the difference between price and value and if it is willing to act on gaps between the two.

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Appendix: The Equivalence of Dividends and Share Buybacks

We can show that dividends and buybacks are equivalent ways to return cash to shareholders under stringent conditions. These include no or equivalent taxes, proceeds from dividends and buybacks are invested at the same rate, dividends and buybacks occur at the same time, and the stock trades at fair value when the buyback occurs.

We start by specifying a stream of cash flows that will be returned to shareholders. We assume that a $100 payment in the first year grows at a nine percent rate in years two through five, followed by a lump sum in year six. The payments are made at the end of the year. We assign a cost of equity of 7 percent and start with 100 shares outstanding.

	1	2	3	4	5	6
Cash flows	$100.0	$109.0	$118.8	$129.5	$141.2	$772.7

The sum of the present value of this series of cash flows is $1,000, determined as follows:

Present value before payout						
Present value of cash flow	$93.5	$95.2	$97.0	$98.8	$100.6	$514.9
Total value	$1,000.0					

At the beginning of the year when the payouts begin, the value of the first year's payout is $93.5, or $100 ÷ $(1 + .07)^1$, the value for the year 2 payout is $95.2, or $109 ÷ $(1 + .07)^2$, and so forth. The value per share is therefore $10 ($1,000 ÷ 100).

To show the equivalence, we need to move forward in time. At the end of year 1, for example, the company will pay out $100 and there will be only 5 payments left. At the end of year 2, the company will pay out $109, and there will be only 4 payments left, etc.

We assume that the proceeds from either the dividend or the buyback are reinvested at the cost of equity. We know that the total value of these payments plus the reinvested amount will be $1,500.7, which is $1,000 × $(1 + .07)^6$. This calculation is compounding, or the unwinding of discounting. We will end up with that amount whether we assume a dividend or a buyback. Because we assumed reinvestment at the cost of equity, the internal rate of return (IRR) is also 7 percent. The total value would be different, but still equivalent, if we were to assume an alternative reinvestment rate.

Let's start with dividends, as that's the easier case. At the end of year 1, we assume the company pays a $100 dividend. At the end of year 2, the company pays $109, and so on.

Note that there is an additional source of value from reinvesting the proceeds of the dividend at the cost of equity. That reinvestment is worth $7.0 in year 2 ($100 × .07) so the total value at the end of year 2 is $216 (dividend payments of $100 and $109 plus reinvested dividends of $7).

	1	2	3	4	5	6
Dividend payment	$100.0	$109.0	$118.8	$129.5	$141.2	$772.7
Reinvestment	0.0	7.0	15.1	24.5	35.3	47.6
Total value	$100.0	$216.0	$349.9	$503.9	$680.4	$1,500.7

We proceed in the same fashion for each of the 6 years until all of the cash flows have been paid out. We end up with $1,371.2 from the dividends and $129.5 from the reinvested proceeds for a total of $1,500.7.

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Now let's turn to buybacks. At the end of year 1, we assume the company buys back $100 worth of stock. The value of the firm immediately preceding the buyback is $1,070 ($1,000 × (1 + .07)), which means the stock trades at $10.70. The company can repurchase 9.3 shares.

At the end of year 2, the company buys back $109. The fair value of the shares is $11.45 ($10.70 × (1+ .07)), which allows for a buyback of 9.5 shares ($109 ÷ $11.45). This process continues until year 6, when the buyback value of $772.7 equals the value per share times the shares outstanding ($772.7 = $15.01 × 51.5). After the last buyback the shares outstanding are zero.

	1	2	3	4	5	6
Buyback amount	$100.0	$109.0	$118.8	$129.5	$141.2	$772.7
Starting shares	100.0	90.7	81.1	71.4	61.6	51.5
Value per share	$10.70	$11.45	$12.25	$13.11	$14.03	$15.01
Number of shares in buyback	9.3	9.5	9.7	9.9	10.1	51.5
Shares after buyback	90.7	81.1	71.4	61.6	51.5	0.0
Reinvestment	0.0	7.0	15.1	24.5	35.3	47.6
Total value	$100.0	$216.0	$349.9	$503.9	$680.4	$1,500.7

As with the dividends, we have to consider the proceeds from reinvesting the cash the shareholders received when they sold their shares to the company. The proceeds are the same as for the dividend plan because the amount returned and the reinvestment rate are identical.

The sum of the aggregate value of the share buyback is $1,371.2 (100 shares at an average cost of $13.71) and the proceeds from reinvestment are $129.5. That gets us to $1,500.7.

In reality, the conditions required for equivalence almost never hold. For example, the tax rate for dividends and long-term capital gains is the same for investors who hold shares in accounts subject to taxes, but the amount to be taxed can differ. The full dividend amount is taxed but with a buyback only the capital gains are taxed. Investors who sell shares in an amount equivalent to the dividend, creating a homemade dividend, are taxed based on the difference between the price of the sale and their cost basis for the stock. In non-taxable accounts, the tax issue is not relevant. None of this is tax advice, but we want to point out that tax treatment can create a difference in economic outcomes for dividends and buybacks.

Dividends tend to occur on a specific schedule, with most companies paying every quarter. Buybacks are much more sporadic. We also saw that dividend amounts are much more stable than buybacks (exhibit 36). The assumption of identical timing does not reflect how companies actually behave.

The reinvestment rate is also important. Most investors do not reinvest their dividends back into the shares of the company that issued them. They either use the proceeds for current consumption or they reinvest in other securities or investments. A shareholder who sells to a company in a buyback has similar reinvestment options. While it is not clear that the recipients of dividends and investors selling their shares back to companies treat their proceeds differently, it is a strong assumption that they reinvest them in an identical fashion.

Finally, our example assumed the stock was at fair value. The price of the stock does not matter for the calculation of value from dividends but does matter for the buyback scenario. Our discussion showed that companies overall tend to be good at timing, which means they buy back stock when it is undervalued and sell it when it is overvalued. This creates wealth transfers between shareholders and a disparity between the dividend and buyback scenarios.

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