The Academic-Industry Research Network

Corporate Finance in the Theory of Innovative Enterprise

AIR Report #26-01/27

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January 23, 2026

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To be published in
Sofia Johan, Geoffrey Wood, and Anna Grosman, eds.,
The Oxford Handbook of Corporate Finance, Oxford University Press, 2026

Acknowledgements: The research that underpins this paper has been funded by the Institute for New Economic Thinking and the Canadian Institute for Advanced Research (CIFAR) through its program on Innovation, Equity & the Future of Prosperity.

Key words: Innovative enterprise, strategic control, organizational integration, financial commitment, corporate financialization, stock buybacks, Apple Inc,

JEL codes: D2, D3, D46, G3, N22, O3

Abstract

In my research on innovative enterprise and sustainable prosperity, I use the "theory of innovative enterprise" to examine how *modes of corporate finance*—founder investments, private placements, initial public offerings, retained earnings, secondary stock issues, employee stock options, short-term debt, long-term debt, derivatives—support or undermine the three social conditions of innovative enterprise: strategic control, organizational integration, and financial commitment. In this paper, I focus on the role of the stock market in corporate finance, arguing that, in the United States, the New York Stock Exchange (NYSE) and the National Association of Security Dealers Automated Quotation (NASDAQ) system have functioned far more as *value-extracting* institutions (draining issuer companies of cash distributed to shareholders) rather than value-creating institutions (providing issuer companies with cash to invest in productive capabilities). As an Important example, I delve into how Apple Inc transformed from one of the most innovative companies in history to one the most financialized ones, reflecting a widespread change in the US economy from corporate innovation to corporate financialization. The stock market has become an institution that supports "predatory value extraction"—most impactfully manifested by the phenomenon of stock buybacks done as open-market share repurchases. I conclude with brief statements of three major lessons related to economic ideology, economic performance, and economic policy that one can learn from my study of corporate finance in the theory of innovative enterprise.

1. Corporate finance and sustainable prosperity

Business corporations that grow to be large are central to the operation and performance of a modern economy. In the United States, in 2022, the business sector provided employment to 135.7 million people, equal to 82.6 percent of the civilian labor force. Within the business sector, corporations with 500 or more employees based in the United States accounted for just 0.33 percent of all firms but (averaging 3,493 US-based employees per firm) 54.1 percent of all US business-sector employees and 61.3 percent of all payrolls. Among the largest business corporations, just 546 firms with 20,000 or more US-based employees, with average employment of 61,143, accounted for 24.6 percent of all US business-sector employees and 26.6 percent of payrolls.[1] The resource-allocation decisions of these large business corporations have a preponderant influence on productivity growth, employment stability, and income equity in the economy. The theory of innovative enterprise (TIE) provides a framework for analyzing these resource-allocation decisions.[2]

Through formal training and on-the-job experience, productive business corporations invest in the knowledge and skills of people whom they employ. To reward employees for their value-creating contributions to the firm's productivity and to retain their labor services to generate the next round of goods and services, business corporations can share a portion of their productivity gains with employees in the form of higher wages, superior benefits, greater employment security, and promotions to jobs that require more complex functional capability and greater hierarchical responsibility. It is through the employment relations of productive business enterprises, not (as most economists are trained to believe) labor-market supply and demand, that a society can build the thriving middle class that manifests the achievement of stable and equitable economic growth—or what I call "sustainable prosperity".[3]

This paper focuses on modes of financing the growth of value-creating firms that, through the generation of high-quality, low-cost goods and services, can contribute to sustainable prosperity. In my research on corporate innovation, and how it often transforms to corporate financialization, I have used my TIE framework to examine , among other things, the importance of the *mode of corporate finance*—founder investments, private placements, initial public offerings, retained earnings, secondary stock issues, employee stock options, short-term debt, long-term debt, derivatives—for supporting or undermining the three social conditions of innovative enterprise: strategic control, organizational integration, and financial commitment. This paper summarizes a portion of my theoretical framework and provides illustrative empirical research on these issues. I focus on the role of the stock market in corporate finance, arguing that, in the United States over the past four decades or so, the New York Stock Exchange (NYSE) and the National Association of Security Dealers Automated Quotation (NASDAQ) system have functioned far more as *value-extracting* institutions (draining issuer companies of cash, distributed to shareholders) rather than value-creating institutions (providing issuer companies with cash to invest in productive capabilities).

In the next section of this paper, I outline TIE as a framework for analyzing how a company can generate a higher-quality, lower-cost product than was previously available for its market—the

economic definition of innovation—through the exercise of *strategic control*, the implementation of *organizational integration*, and the provision of *financial commitment*. In the following section, I delve into the history of Apple Inc, one of the most innovative companies in history but now the most financialized one. I contend that Apple's experience reflects a widespread transformation in the US economy from corporate innovation to corporate financialization. Then, I focus on how, in the United States, the stock market has become an institution that supports "predatory value extraction"—most dramatically and impactfully manifested in the phenomenon of stock buybacks done as open-market repurchases. I conclude with brief statements of three major lessons related to economic ideology, economic performance, and economic policy that one can learn from my study of corporate finance in the theory of innovative enterprise.

2. The theory of innovative enterprise

Through my decades-long study of the history of capitalist development in the leading economies, I have constructed the theory of innovative enterprise (TIE) to explain the social conditions under which, through innovation, a business corporation can grow to be large. Innovative firms seek to compete on a product market by developing goods and services that are *higher quality* than those of their rivals and that can be sold at a profit for lower unit cost.[4]

The definition of the quality of a product is both subjective and subject to change, and for any given product there can be myriad dimensions of quality, depending upon what the buyer values. If, however, a business corporation can convince enough potential buyers that its product is higher quality than those of its rivals, it can capture a larger share of the market. And if the firm can maintain product quality as it increases its output to serve the larger market, it can spread the fixed cost of developing a higher-quality product over more units of output, thus lowering its unit cost by achieving *economies of scale*.

For the innovating firm, the pricing of the higher-quality, lower-cost product is a strategic variable that, from a profit perspective, is influenced by the price-elasticity of demand of the specific market that it serves. It may choose to charge a relatively low price, thus reducing its profit margin for the sake of capturing an even larger extent of the market, which in turn will enable it (if it can maintain product quality as it expands output) to attain an even lower unit cost. Or it may choose to charge a relatively high price, thus potentially increasing the amount of profit that it controls that can be reinvested in the growth of the firm.

That growth often takes the form of investment in a new product for a specific market that can make use of the specific physical capacity and human capability that the firm has accumulated by its prior investments in innovation. Investment in the development of a new product increases the firm's fixed cost. But if the firm is successful in generating a higher-quality product, it can attain not only economies of scale that lower the unit cost of the new product but also *economies of scope* that, by spreading the fixed cost of the totality of the firm's physical capacity and human capability across more products, can further lower the unit costs of all the products.

It is also possible for an innovating firm to grow through merger with or acquisition of other firms that have already developed higher-quality products—which may in some cases be a higher-quality process input for use by the acquiring firm. The challenge is then to integrate the acquired physical capacity and human capability into the operations of the controlling (i.e., acquiring) firm while maintaining the high quality of the acquired products. Then, by using the acquired resources to develop an even higher-quality product, the firm can capture a large share of the product market, achieving economies of scale and scope.

I have just described (with great brevity) what an innovating firm needs to do to generate a higher-quality, lower-cost product or, in the multiproduct firm, set of products. TIE seeks to identify the *social conditions* that determine whether the innovating firm will, in fact, be successful in becoming an innovative enterprise. TIE begins with the observation that the innovation process is *uncertain*, *collective*, and *cumulative*.

- **Uncertain:** When investments in transforming technologies and accessing markets are made, the product and financial outcomes cannot be known in advance. The innovating firm confronts technological uncertainty (will the firm be able to generate a higher-quality product?), market uncertainty (how many customers will buy the higher-quality product?), and competitive uncertainty (are there rivals that will generate an even higher-quality, lower-cost product?). Given these uncertainties, an innovating firm needs *strategy.*

- **Collective:** To generate a higher-quality, lower-cost product, the business enterprise must integrate the skills and efforts of large numbers of people with different hierarchical responsibilities and functional capabilities into the collective learning processes that are the essence of innovation. The innovating firm requires human-resource policies designed to ensure that its employees cooperate through the supply of their skills and efforts in the learning processes that may result in innovation. Given these human-resource challenges, the innovating firm needs *organization.*

- **Cumulative:** Collective learning today enables collective learning tomorrow. Therefore, the firm must sustain organizational-learning processes continuously over time until financial returns are generated through the sale of innovative products. The fixed cost of investments in physical capacity and human capability must be incurred now for revenue that can only be realized in the future. Given the temporal gap between incurring cost and securing revenue, the innovating firm needs *finance.*

Strategy, organization, and finance are generic activities in the operation of any business corporation. It is the *social content* of these generic activities, embodied in distinctive social relations, that can transform strategy, organization, and finance into innovative performance. The "social conditions of innovative enterprise" framework, which is the substance of TIE, provides a conceptual guide to company-level investigation of how an actual business enterprise operates and performs over time. Specifically, implementing the three generic business activities, *strategic control, organizational integration*, and *financial commitment* are social conditions that can

enable the corporation to manage the uncertain, collective, and cumulative character of the innovation process.

- **Strategic control:** For innovation to occur in the face of technological, market, and competitive uncertainties, executives who control corporate resource allocation must have the abilities and incentives to make strategic investments in innovation. Their abilities depend on their knowledge of how strategic investments in new productive capabilities can enhance the corporation's existing capabilities. Their incentives depend on alignment of their personal interests with the corporation's purpose of generating innovative products.

- **Organizational integration:** Implementation of an innovation strategy requires integration of people working in a complex division of labor into collective and cumulative learning processes. Work satisfaction, promotion, remuneration, and benefits are important instruments in a reward system that motivates and empowers employees to engage in collective learning over a sustained timeframe.

- **Financial commitment:** For collective learning to accumulate over time, the sustained commitment of "patient capital" must keep the learning organization intact. For a young company that, because it is a start-up, has not yet been able to turn a profit, various forms of "venture capital" can provide financial commitment. For a going concern that has achieved sustained profitability, retained earnings—leveraged, if need be, by debt issues—are the foundation of financial commitment.

The uncertainty of an innovation strategy is inherent in the fixed-cost investments required to develop the productive capabilities that may, if the strategy is successful, result in a higher-quality product. Fixed cost derives from both the size and the duration of the innovative investment strategy. If the size of investment in physical capital tends to increase the fixed cost of an innovation strategy, so too does the duration of the investment in human capabilities required for the business enterprise to engage in the collective and cumulative—or organizational—learning that, by transforming technologies and accessing markets, can result in innovative products.

An innovation strategy that may eventually enable the enterprise to develop a higher-quality product may, if it only attains low levels of sold output, place the innovating firm at a competitive disadvantage vis-à-vis "optimizing" firms that do not seek to transform technology and market conditions. The high fixed cost of an innovation strategy compels the company to attain a high level of utilization of the productive resources it has developed—that is, achieve scale and scope economies. Through successful innovation, the innovating firm can transform a self-imposed competitive disadvantage into a unique, and possibly enduring, competitive advantage.

Given its existing productive capabilities, the innovating firm may experience increasing cost because of a degradation of the productivity of variable inputs it buys as needed on the market to expand production. To overcome the constraint on its innovation strategy posed by reliance on the market to supply an input that results in increasing unit cost, the innovating firm can choose

to integrate the production of the supply of that input into its internal operations. That is, the innovating firm transforms a variable cost into a fixed cost. The development of the productive capability of this newly integrated input, therefore, adds to the fixed cost of the innovation strategy. The innovating firm is now under even more pressure to generate a higher-quality product and expand its sold output to transform, through scale economies, high fixed cost into low unit cost.

The company's higher-quality product, if it is successful in generating it, enables the company to access a larger portion of the market than its competitors. The fixed cost of the innovation strategy generally depends on investments in not only transforming technology but also accessing markets. Besides distribution facilities, accessing a larger market share may entail fixed costs for branding, advertising, and a salaried sales force. Learning about what potential buyers want and convincing potential buyers that the company's product is actually "higher quality" add to the fixed cost of the innovation strategy.

More generally, an increase in fixed cost of accessing the market requires a larger extent of the market to convert high fixed cost into low unit cost. A potent way for an innovating firm to attain a larger extent of the market is for the company to share some of the gains of this cost transformation with its customers in the form of a lower product price. As already indicated, the setting of product price can be central to the company's innovation strategy. Under certain conditions of supply of and demand for a product, it is possible that a lower price to buyers will result in an increase in not only productivity but also profitability.

Along with investment in plant and equipment, investment in productive capability entails training and retaining employees. When a company enhances an employee's productive capability through formal and on-the-job training, the employee's upgraded capability represents a fixed-cost asset that can improve the quality of the innovating firm's product, which in turn can enable the company to attain a larger extent of the market to transform the increased fixed cost of its investment in human capabilities into low unit cost. When the company succeeds in generating a higher-quality, lower-cost product, innovation drives its growth.

To retain and motivate the employees whom the company has hired and trained, the innovating firm can offer them higher pay, more employment security, superior benefits, and more interesting work, all of which add to the fixed cost of the asset that an employee's labor represents. If these rewards to employees result in innovative products, the gains reaped by employees may make the company an even more productive and profitable business enterprise. A crucial way in which the innovating firm shares the gains of innovation with its employees is by making investments in their "collective and cumulative careers". As a result, within its own operations, the innovative enterprise can contribute to employment stability, income equity, and productive capability.

Individuals develop their own productive capabilities as members of collectivities organized by the corporation (in some cases in collaboration with other business corporations or with government agencies). And the specialized knowledge that enables individuals to become more

productive over time cumulates through their ongoing involvement in collective learning processes. Over the course of their careers, individuals may change employers, making it necessary for them to engage in learning in a coherent and continuous manner across a series of business, government, and related civil-society organizations.

Career employees can become more productive because of their sustained involvement in processes of organizational learning. The innovative enterprise can afford, and indeed profit from, increased rewards to career employees when the employee's productive capability enables the company to gain a competitive advantage by generating a higher-quality, lower-cost product than had previously been available for its market. Under such circumstances, increases in labor income and increases in labor productivity tend to show a highly positive correlation—as, indeed, was the case in the post-World War II decades when in large corporations in all the advanced economies the career-with-one-company employment norm prevailed.[5]

When the innovating firm is successful, it may come to dominate its industry. The company's output is far larger and its unit cost, and hence potentially its product price, is far lower than would be the case if a large number of small firms with lower-quality products and lesser scale economies populated the industry. The overall gains from innovation depend on the relation between the innovating firm's cost structure and the industry's demand structure, while the distribution of those gains among the company's various participants depends on their relative power to appropriate portions of these gains.

It is theoretically possible (although by no means inevitable) for the gains of an innovative enterprise to permit, simultaneously, higher pay, more stable employment, and better work conditions for its employees; a stronger balance sheet for the firm as a going concern; more secure paper for creditors; higher dividends and stock prices for shareholders; more tax revenues for governments; and higher-quality products at lower prices for consumers. I call such a scenario progressive value creation. It is also possible, however, that certain participants will extract far more value from the firm than they contribute to creating value in the firm. I call such a scenario predatory value extraction.

3. The stock market as a value-extracting institution: the case of Apple

Innovative enterprise requires financial commitment. Money in its various forms—legal tender, bank checks, digital transfers—is a means of exchange, and, as such, can flow from the purchase of one product to another, including various types of near-cash financial instruments on which money can reap a yield while remaining highly liquid—that is, easily reallocated to other uses. Money markets, including liquid stock markets, perform this function. For an industrial corporation, however, financial flows that seek financial liquidity are the antithesis of the secure, continuous access to money—financial commitment—needed to sustain the collective and cumulative learning processes that are the essence of innovation. It is organizations, not markets, that engage in industrial innovation. Innovative enterprise requires the industrial corporation to control the stock market on which its shares are issued rather than be controlled by it.[6]

Innovation is uncertain, and hence the business enterprises that seek to engage in industrial innovation do not always succeed. The innovation process may be stymied by corporate strategy that invests in the wrong type of learning or by the failure of management to integrate employees into the critical organizational-learning processes. But even when the investment strategy is sound and the learning processes are on track to overcome technological uncertainty, lack of access to committed finance can bring the innovative enterprise to an abrupt halt. Financial commitment is, along with strategic control and organizational integration, a critical social condition of innovative enterprise. A corporation-governance regime that prioritizes distributions to shareholders in effect turns the business corporation into a source of financial liquidity rather than financial commitment, subverting strategic control and organizational integration.

Conventional wisdom has it that the role of the stock market is to provide the business corporation with cash that it can commit to investment in productive capabilities, with public shareholders as *investors* bearing the risk of the failure of the corporation's investment strategy and, consequently, having claim to all the profits that accrue when the investment succeeds. This view of the actual role of the stock market in the US economy and the assumption that only shareholders have a claim on corporate profits are both fundamentally flawed. In sharp contrast to agency theorists who, invoking the now ubiquitous ideology that, for the sake of economic efficiency, a business corporation should be run to "maximize shareholder value" (MSV), TIE permits an analysis of the historical record of the stock market in the US economy that reveals that, far from supporting the processes of value creation, *the stock market has been and remains a value-extracting institution.*[7]

To provide specificity to this proposition, I examine the changing role of the stock market in the evolution of Apple Inc, one of the most innovative companies in history. I show that the stock market has never been an important source of cash for Apple. I document, moreover, that Apple became an innovative company when the pressures from the stock market did not dictate the resource-allocation decisions of those within the company who exercised strategic control, and it became a highly financialized company when powerful actors in the stock market were able to exert control over the company's senior management.[8]

Apple Computer Company was founded in Los Altos, California on April 1, 1976, by Steve Jobs, Steve Wozniak, and Ronald Wayne (who quickly sold his ten-percent share to the other two). With $250,000 backing of an angel investor, Mike Markkula (who had made a small fortune from his stock options as an employee at Intel Corporation), Jobs exercised strategic control at Apple in the early years, while Wozniak was the company's electronics whiz, and never performed an important managerial role. In December 1979, Jobs and his team visited nearby Xerox PARC, the West Coast research labs of Xerox Corporation that by this time had essentially invented the microcomputer, gaining access to its learning, including its graphical-user-interface technology, in return for *permitting* Xerox to buy shares in Apple for $1 million.

Apple went public with a listing on NASDAQ on December 12, 1980, raising $97 million for 8.5 percent of shares outstanding. After the IPO, Jobs had 14 percent of the shares, Markkula 13 percent, and Wozniak 7 percent. Markkula and Jobs recruited John Scully from Pepsi Cola to be

CEO, but Jobs then found himself marginalized, and left the company in 1985, reportedly selling all his Apple shares save one.

Subsequently, under Scully and successors, Apple became the epitome of a financialized company, wasting $1.8 billion on buybacks (52 percent of net income) between 1986 and 1995. Apple also distributed $443 million as dividends, another 13 percent of net income. Apple's senior executives, flush with stock options, were among the highest-paid executives in Silicon Valley during this period.

In 1997, the company acquired NeXT—the computer company that Jobs had founded in 1986—to gain access to its operating system. In the process (which was Jobs' intent), the founder was able to return to Apple. From his position as a special advisor, Jobs maneuvered to replace directors with board members who supported him and then assumed the title of "acting CEO" (because he was also CEO of animation studio Pixar, which had made Jobs a billionaire when it had done its IPO in 1995). To keep a now-distressed Apple solvent, Jobs arranged for Bill Gates of rival Microsoft to purchase $150 million in non-voting preferred shares (which Gates later converted to common shares and sold on the market). The deal included an agreement that Microsoft would develop its Office software suite for Apple's Mac computers.

When Jobs seized strategic control at Apple in 1997, an interviewer asked Michael Dell, whose rapidly growing computer company was #3 in global market share (5.5 percent), behind Compaq and IBM, what he would do in Jobs' place. "What would I do?" Dell responded. "I'd shut it down and give the money back to the shareholders."[9] Instead, from his position of strategic control of Apple, Jobs made the investments in iTunes, Apple Stores, iPods, iPhones, and iPads that, by the time he passed away in October 2011, had transformed a "has-been" computer company (ranked #9 globally and falling in 1997) into a world leader in both information and communication technology.

During these 14 years under Jobs, Apple paid no dividends and did a total of $511 million in buybacks, less than one percent of net income. The buybacks were executed in the tight job markets of 1999, 2000, and 2006, as Apple sought to give manipulative boosts to its stock price to make its stock-based pay more competitive in attracting and retaining personnel. In August 2011, two months before he died, Jobs handed the CEO job to Tim Cook, who had been head of Apple's worldwide operations, which included outsourcing of manufacturing to China.

In August 2012, for the first time since 1996, Apple paid dividends. They amounted to $2.5 billion for the quarter, or 6.0 percent of its $41.7 billion in profits during the 2012 fiscal year (ended September 29). Corporate predator (aka hedge-fund activist) David Einhorn, who had accumulated Apple shares valued at $600 million, wanted to extract more cash from Apple. He took legal action to try to force Apple to issue free interest-bearing preferred stock, worth about $47 billion in tradeable value, to all existing shareholders. While Cook opposed Einhorn's proposal, in April 2013 the Apple board created the "Capital Return Program", with an authorization for dividends and stock buybacks of up to $100 billion by the end of December 2015.

This manifest willingness of Apple's board to "create shareholder value" encouraged Carl Icahn, a veteran corporate raider, to snap up, mainly in August 2013, $3.6 billion in Apple shares from the market, equal to 0.9 percent of the value of Apple's outstanding stock. In October 2013, in an open letter to CEO Cook, Icahn demanded that Apple commit to doing an immediate tender offer to repurchase $150 billion in Apple shares. Icahn repeated the demand a year later. Meanwhile, in fiscal 2013, Apple distributed $10.6 billion in dividends and $22.9 billion in buybacks (as open-market repurchases), together representing 90 percent of net income.

That was just the beginning. Apple repurchased $45.0 billion in 2014 (a record for annual buybacks by any company at the time) and $35.3 billion in 2015. In the winter of 2016, Icahn raked in *$2 billion* in profit when he sold the Apple shares that he had bought for $3.6 billion in 2013.

Just as Icahn was selling, Warren Buffett, who had become one of the wealthiest people in the world as the "patient capitalist" head of Berkshire Hathaway, was using his company's cash to purchase Apple shares on the market. By September 2018, Buffett had shelled out $36.1 billion, giving him 5.1 percent of Apple's shares outstanding. After doing $32.9 billion in buybacks in 2017, Apple ramped it up to *$72.7* billion in 2018—122 percent of net income in that year.

In May 2018, Buffett enthused in an interview: "I'm delighted to see [Apple] repurchasing shares. I love the idea of having our 5 percent, or whatever it is, maybe grow to 6 or 7 percent without our laying out a dime."[10] Apple continued to oblige. As of June 30, 2024, Buffett, on behalf of Berkshire Hathaway, had a *net gain of $158 billion* on a total of $39 billion in Apple shares that he had bought since 2016. During this time, Apple averaged $69 billion in buybacks annually; in comparison its annual R&D expenditures averaged $20 billion.

Take note of a critically important point: Not one cent of the cash that Einhorn or Icahn or Buffett used to purchase Apple shares flowed to the company for investment in productive capabilities or any other purpose. They were not "investors" in Apple. They were stock traders who never made any contribution whatsoever to Apple's value creation. But they gained immensely—none more so than Buffett—by extracting value from Apple. That is a clearcut definition of "predatory value extraction".

From 2013 through 2025, Apple paid out $172.1 billion in dividends, equal to 19 percent of net income, and spent *$816.5 billion* on buybacks, another 91 percent of net income. Since 2013, when the Apple board authorized the initial $100 billion in dividends and buybacks, the company's official title for its distributions to shareholders has been, as already mentioned, its "Capital Return Program". We can ask, however, "return" capital to whom? The only time Apple ever raised funds on the public stock market was in its 1980 IPO.

It also bears pointing out that the corporate cash that has been flowing to the likes of Einhorn, Icahn, and Buffett, as well as other public shareholders, is not "capital". It is money that Apple's board has chosen *not* to transform into human capability and physical capacity by, for example,

improving the pay and benefits of workers in Apple Stores, or sustaining its investments in autonomous vehicles (in which it has failed), or improving its AI capability (in which it has performed poorly), or funding a US-based state-of-the-art semiconductor fab (rather than effectively outsourcing technological leadership to Taiwan Semiconductor Manufacturing Company), or funding the development of advanced rechargeable batteries in the United States (rather than outsource development of this critical technology to South Korea and China).[11]

While Einhorn, Icahn, and Buffett pressured Apple to execute record-breaking buybacks, Apple's management willingly participated in this predatory value extraction. In 14 years as Apple CEO from 2012 to 2024, Tim Cook reaped total compensation of $707 million (averaging over $54 million per year), of which 78 percent was realized gains from the vesting of stock awards. In 21 years on Apple's board after joining in 2003, Albert Gore Jr. accumulated $122 million ($35 million realized) from Apple shares granted as the lion's share of his director compensation.[12]

All companies, by definition, raise cash in their IPOs (although, even then, the prime purpose for going public is often for the venture capitalists and founder-entrepreneurs to raise cash for themselves, which is labeled an "exit strategy"). Also, publicly listed companies occasionally do secondary stock issues on the stock market. When a company issues employee stock options or has a stock purchase plan, it also receives cash from employees by virtue of its compensation system. Restricted stock units, aka stock awards, which is the form of stock-based compensation that Apple has been granting to employees for the past two decades, do not, however, yield cash to the company; indeed, Apple, like other US-based companies "buys back" a proportion of vested stock awards to fund employees' tax withholdings on them, and hence this form of stock-based pay results in a cash outlay by the company.

The chief financial officer (CFO) may construe open-market stock repurchases as offsetting dilution of shareholding that occurs when employees exercise their options or their awards vest. In theory, however, in granting options or awards, the company should expect the employees to work harder and smarter, resulting in innovation that, when it becomes apparent to stock traders, lifts the company's stock price on the market. When employees exercise their options or their awards vest, the stock market can provide the cash that constitutes the employees' enhanced income. The company should not have to expend corporate cash on buybacks to manipulate the company's stock price to enable employees to realize gains from their stock-based pay.

This brief history of Apple exposes—to borrow the title of former Apple director Al Gore's Oscar-winning documentary on climate change—an inconvenient truth: In the United States in the 21st century, the stock market is a value-extracting institution. Why did Cook and Gore along with other board members (numbering just six others in 2013 when Apple launched the "Capital Return Program") authorize what can only be described as the looting of Apple's corporate treasury? These executives and directors have sought to appease corporate raiders—actual or potential at any point in time—so that, faced by the threat of ouster, they can retain their extraordinarily powerful and extremely lucrative jobs.

Cook is an Apple employee who, on January 2, 2025, had 3.3 million beneficially owned shares. Their market value on that date was $806 million, and Cook had accumulated additional wealth from shares that he had sold. But as CEO, Cook held just 0.02 percent of Apple's outstanding shares, each of which, like all other Apple common shares, has one vote. In the next section of this paper, I will explain why, given proxy-voting rules in the United States, a hedge-fund activist like Carl Icahn, even holding just one percent of Apple's stock, could have potentially mobilized enough proxy votes to oust Cook and his board. As Icahn put it early 2014, as he expressed his approval of Apple management's response to his pressure to "increase shareholder value": "Tim and the board have exhibited the 'opportunistic' and 'aggressive' approach to share repurchases that we hoped to instill."[13] Apple's $816.5 billion in buybacks from 2013 to 2025 can rightly be viewed as the allocation of corporate cash to a protection racket—a less transparent form, of "greenmail" than the way in which, in the late 1970s and early 1980s, as discussed below, Icahn had pioneered in the waging the predatory-value-extraction war.

Apple executives are not alone in participating in this financial thuggery. The 493 corporations in the S&P 500 Index in January 2024 that were listed on a stock market from 2014 through 2023 distributed $4.9 trillion in dividends over the decade, equal to 41 percent of net income, and another $6.7 trillion in buybacks, another 56 percent of net income. For the 500 companies listed on either NYSE or NASDAQ with the highest revenues in 2024, dividends were $638 billion, 34 percent of net income, and buybacks were $902 billion, another 49 percent of net income.

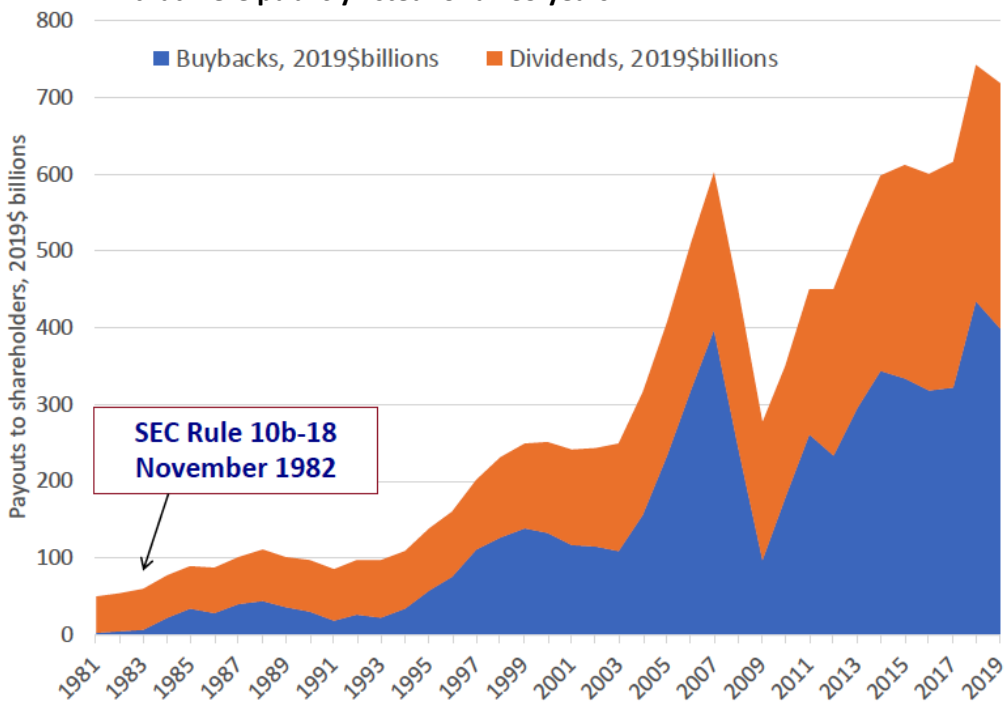
As in the case of Apple, the companies that do the most repurchases are those that have profits that continue to accrue from the sale of products generated in the era (which in some industries can be decades ago) in which they were innovative enterprises. In 2024, the ten largest non-financial repurchasers—Apple, Alphabet, Nvidia, Meta, Exxon Mobil, Chevron, Microsoft, T-Mobile USA, Adobe, and Marathon—averaged $29.8 billion in buybacks, representing 61 percent of their net income. They also distributed an average of $8.3 billion in dividends (17 percent of net income) in 2024. How did this predatory value-extracting state of corporate affairs come to pass?

4. The rise of the value-extracting business corporation

We can track distributions to shareholders by the 216 companies that were included in the S&P 500 Index in January 2020 and were continuously listed on either the New York Stock Exchange or NASDAQ from 1981 through 2019. Of the top ten industrial repurchasers in 2024, only Apple, Exxon Mobil, Chevron, and Marathon are included in this dataset (Microsoft, for example, is not in the dataset because, although it was in existence in 1981, its IPO on NASDAQ was in 1986). In 1981–1983, these 216 companies distributed 49.7 percent of net income as dividends and 4.4 percent as buybacks. In 2017-2019, the same 216 companies spent 49.6 percent of net income on dividends and 62.2 percent on buybacks—which means that, in the latter period, in addition to distributing 100 percent of net income, these companies allocated cash to dividends and buybacks by, for example, taking on debt, eating into cash reserves (including capital consumption allowances), divesting assets, and/or downsizing the labor force.

Figure 1 charts the changes in distributions to shareholders among these 216 companies in 2019 dollars over the 39 years. Note that dividends are much less volatile than buybacks. Companies are loathe to cut their dividends—which, unlike realized gains from buybacks, are paid equally by all shareholders—but tend to ratchet them up gradually during profitable years. Stock buybacks, in contrast, tend to fluctuate with the business cycle, reaching new heights in booms and being cut back sharply in busts. Most companies do stock buybacks when stock prices are high and rising, as they compete with other companies to take advantage of a speculative boom by manipulating their stock prices to maintain pace with the market.[14] As a result, when a super-profitable company like Apple spent $95 billion on buybacks (101 percent of net income) in 2024 or $91 billion (81 percent of net income) in 2025—by far the largest amounts of any company—it raised the stock-price manipulation bar for everyone else.

Figure 1. Stock buybacks and cash dividends, 1981-2019, in 2019$ billions, for the 216 business corporations in the S&P 500 Index in January 2020 that were publicly listed for all 39 years



Source: S&P Compustat database and company 10-K filings, compiled by Mustafa Erdem Sakinç and Emre Gömeç of the Academic-Industry Research Network.

Table 1 displays the data on buybacks and dividends in Figure 1 as percentages of net income for the 216 companies for 1981-1984 and then for five-year periods from 1985-1989 through 2015-2019. The proportions for 2005-2009 and 2015-2019 capture the surges in buybacks during years in which, except for 2008 and 2009, profits were high and the stock market was booming. From 2003 to 2007, the value of buybacks done by S&P 500 Index companies quadrupled. These data show that even as buybacks absorbed a large proportion of net income, these companies paid ample dividends. The half-decade 2015-2019 is particularly noteworthy for the extent of distributions to shareholders in the years preceding the onset of the Covid-19 pandemic—enabled in part by the Republican Tax Cuts and Jobs Act, passed into law in December 2017.

Table 1. Cash dividends (DV) and stock buybacks (BB) as percentages of net income (NI), 1981-2019, for the 216 business corporations in the S&P 500 Index in January 2020 that were publicly listed for all 39 years

	1981-1984	1985-1989	1990-1994	1995-1999	2000-2004	2005-2009	2010-2014	2015-2019
DV/NI%	48.3	50.3	53.9	37.0	40.5	40.7	35.7	50.5
BB/NI%	8.6	29.5	20.5	40.7	38.0	54.8	44.3	61.7
(DV+BB)/NI%	56.9	79.8	74.4	77.7	78.4	95.5	80.0	112.2

Source: S&P Compustat database and company 10-K filings, compiled by Mustafa Erdem Sakinç and Emre Gömeç of the Academic-Industry Research Network.

Prior to 1981, dividends paid by large US-based corporations were substantial. According to a database compiled by Robert Shiller, the dividend payout ratio of companies in the S&P 500 Index was 54 percent in the 1950s, 55 percent in the 1960s, and 45 percent in the 1970s,[15] with almost all the remainder, as retained earnings, being used to increase employee wages and benefits, provide employment stability, and, making use of the productive capabilities of those employees, to invest in the next round of innovative products.

The Shiller data show dividend payout ratios well below 50 percent for the past 45 years: 47 percent for the 1980s and 1990s, 43 percent for the 2000s, and 40 percent for the 2010s and first half of the 2020s. But, as shown in Table 1, since the mid-1980s, S&P 500 companies have been doing stock buybacks that often exceed dividends, whereas, in the previous decades, buybacks were minimal. From the mid-1980s, buybacks became a major new determinant of stock prices.

Note that Shiller received the Swedish Central Bank (aka Nobel) prize in economics in 2013 for his research on "irrational exuberance" in the stock market (especially in the late 1990s boom)—without any discussion of the impact of share repurchases/stock buybacks as a driver of stock prices.[16] Yet, when, in 2003, the SEC amended Rule 10b-18, adopted initially in 1982 (see the discussion below), it stated in its release, "during the late 1990s, it was reported that many companies were spending more than half their net income on massive buyback programs that were intended to boost share prices—often supporting their share price at levels far above where they would otherwise trade." The SEC went on to warn that the unregulated use of block trades in doing buybacks could exacerbate "the potential for manipulative abuse" and "mislead investors about the integrity of the securities trading market as an independent pricing mechanism." [17]

Shiller's only mention of share repurchases in his book, *Irrational Exuberance*, is in an endnote, in which he states: "Concern has been expressed that recent measured dividends may understate cash flow from the firm to investors," and he cites a study that estimates that "considering share repurchase as a form of dividend would raise dividend-price ratios in the mid-1990s by about 80 basis points."[18] In 1997, however, for the first time, share repurchases by companies in the S&P 500 Index surpassed dividends. Moreover, as a form of distributions to the stock market, dividends are qualitatively different than buybacks. Dividends are paid equally to all shareholders of a given class of shares for, as the name says, holding shares. The realized gains from buybacks

go to *sharesellers*, who are in the business of timing the buying and selling of shares on the market—that is, Wall Street bankers, hedge-fund managers, and senior corporate executives with their ample stock-based pay.

The Securities and Exchange Commission (SEC), which is supposed to regulate the stock market, does not collect information (even after the fact) on the days on which buybacks are done. But professional stock traders know when buybacks are executed on the open market. In a letter to the SEC, John Ramsay, an executive at IEX Exchange (formerly Investors Exchange) observes that, for stock-market professionals, "corporate buyback orders are predictable, easy to detect, and easy to exploit, thus opening the door for short-term traders to take advantage of these orders for short-term profit."[19] He goes on to quote the global head of trading at a large asset manager as declaring that "the corporate buyback is probably the most gameable order in the marketplace". In other words, stock buybacks are money in the bank for many of the richest Americans, many of whom are very gainfully occupied (so to speak) in the financial sector, ready and able to use open-market share repurchases as a lucrative way to make money out of money.

On the other side of the trade, as corporate insiders, senior executives of the corporations doing the buybacks know when the open-market repurchases are being carried out. Indeed, their stock-based compensation is designed to enable them to benefit personally from the allocation of corporate resources to stock buybacks.[20] From 2006 through 2024, the mean total direct compensation of the 500 highest-paid CEOs (omitting extremely high paid outliers such as Mark Zuckerberg and Elon Musk) in each year ranged from a low of $16.9 million in 2008 (during the financial crisis), of which 67 percent was realized gains from stock options and stock awards, to a high of $37.7 million in 2021 (during the pandemic), of which 84 percent was from options and awards. In 2024, the mean total direct compensation was $34.4 million, or which 83 percent was realized gains from options and awards. Incentivized by their stock-based pay to distribute corporate cash to shareholders, senior corporate executives have a financial interest in engaging in predatory practices such as price gouging customers, scrimping on quality controls, and laying off workers so that the company can record more profits out of which more dividends and buybacks can be distributed.

As indicated previously, prior to the era of open-market repurchases, profitable companies retained substantial profits to reinvest in productive capabilities. When a major business corporation required additional financial commitment, it leveraged its retained earnings with long-term bonds issues, locking in the funds for 20 or 30 years at favorable "prime" interest rates. Under what I have called the "Old Economy business model" (OEBM),[21] corporate executives, concerned with financial stability, understood that in an unexpected downturn or disruption, dividends could be cut but interest rates, and possibly principal, on outstanding debt would have to be paid.

Of utmost importance to maintaining financial stability in the Old Economy corporation was the fact that, as an employment norm, it offered both blue-collar and white-collar workers the credible expectation of "careers with one company" (CWOC). Companies retained corporate profits and reinvested them in productive capabilities, including processes of collective and

cumulative learning. Companies integrated personnel into learning processes through career employment. Into the 1980s, the CWOC norm prevailed at major U.S. corporations.[22] A steady stream of dividend income out of profits and the prospect of higher future stock prices based on the next generation of innovative products gave shareholders an interest in a "retain-and-reinvest" resource-allocation regime.[23]

In the immediate post-World War II decades, the beneficiaries of a retain-and-reinvest regime, with its CWOC norm, were mainly white males, be they high-school-educated blue-collar workers or college-educated white-collar workers.[24] At the blue-collar level, the presence of industrial unions helped to ensure that employees would experience employment stability and income equity. At the white-collar level, when a company trained employees fresh out of college, it sought to retain them by promising a career with the company, topped off with healthcare coverage and a corporation-funded, nonportable defined-benefit pension based on the employee's years of service.

The judicious use of corporate debt began to break down in the 1960s conglomerate movement, with long-term consequences for the financialization of Old Economy corporations in the United States.[25] Conglomerate holding companies such as International Telephone & Telegraph (ITT), Gulf & Western, Litton Industries, Textron, and Ling-Temco-Vought (LTV) used their stock and convertible debt to snap up scores (and in the case of ITT, hundreds) of firms in lines of business that were mostly unrelated in terms of markets or technologies.[26] They also loaded up these companies with long-term debt to run their operations.

When the conglomerate boom turned to bust around 1970, what had been investment grade corporate bonds became known as "fallen angels", with their high yields reflecting the drop in the value of their principal. In 1970, Michael Milken, armed with a Wharton MBA, joined the Philadelphia office of Drexel Firestone (which in 1973 was renamed Drexel Burnham), where he was put to work looking for portfolio investment opportunities in low-rated bonds. Milken realized that if he could convince enough money managers that they should allocate some of their funds to these high-yield, low-grade bonds, their risk could be mitigated by obtaining the yields from a diversified bond portfolio that could be readily bought and sold on the liquid "junk bond" market that he sought to create.[27]

From the late 1970s, some "private equity" firms were issuing new junk bonds to fund management buyouts of businesses mired in the conglomerate structure, thus, in effect, seeking to reintegrate strategic control with organizational integration. Over the course of the 1980s, however, at the direction of Milken, junk bonds became instruments for acquiring the voting shares of a large company so that the "investors" who gained strategic control could strip it of its assets. From 1979, Milken ran Drexel Burnham's annual "High-Yield Bond Conference", which by the mid-1980s has so many corporate raiders in attendance that it became known as "The Predators' Ball".[28] As it turned out, by 1988, Ivan Boesky was sent to jail for helping Milken hide from regulators his accumulation of shares of takeover targets. By 1990, Milken was in prison as well.[29]

By the end of the "deal decade" of the 1980s, Wall Street had sharply shifted from the business of floating long-term bond issues to fund corporate growth to using the bond market to finance taking companies apart.[30] At the same time, corporate raiders had found a way of ripping money out of profitable companies by pressuring their senior corporate executives to repurchase their own shares. Predators such as Carl Icahn, Saul Steinberg, and James Goldsmith greenmailed companies by buying five to ten percent of a target's outstanding shares on the market and threatening incumbent management with a takeover, with a view to getting the company to offer to buy their shares directly from them at a premium, leaving incumbent management in control of the now depleted company.[31]

From 1983, there was a regulatory and political backlash to greenmail because it was so transparent that, in reaping the reward of bullying, the corporate raider was benefiting himself at other shareholders' expense.[32] In 1986 and 1987 tax reform acts, Congress changed the tax code to exclude money paid as greenmail as a deductible corporate expense while imposing a 50 percent tax on the raider's realized gains from greenmail.[33] In November 1982, however, the SEC had adopted, almost under the radar, Rule 10b-18, which enabled a company to repurchase its own shares on the open market, so that, in principle, no single shareholder had an inherent advantage in selling shares to the company, while, ostensibly, the company bought back the number of shares of its management's choosing at the market price.[34]

The problem is that, as the Academic-Industry Research Network documents, SEC Rule 10-18, which has been in effect for over four decades, is a "license to loot".[35] Instead of retaining profits and reinvesting in the company, Rule 10b-18 authorizes, and even encourages, a company to distribute corporate cash to shareholders in a form that can be used to manipulate the company's stock price.[36] Over the past four decades, Rule 10b-18 has permitted US-based business corporations to transform their resource-allocation regimes from retain-and-reinvest to "dominate-and-distribute" and, especially with a diminution in the stream of profits, "downsize-and-distribute", as the company lays off employees for the sake of funneling corporate cash to shareholders.[37]

The adoption of Rule 10b-18 was the result of the regulatory capture of the SEC by free-market Chicago-School economists in 1981, following Ronald Reagan's election as president of the United States. Reagan's appointment of E. F. Hutton executive John Shad as SEC chair put the agency that was supposed to eliminate fraud and manipulation from the nation's financial markets under the leadership of a Wall Street banker for the first time since Joseph Kennedy was the inaugural holder of that position in 1934–1935.[38]

In the second year of Shad's chairmanship, the SEC promulgated Rule 10b-18, which gives a company a *safe harbor* against manipulation charges in doing open-market repurchases. Its adoption in 1982 was called a "regulatory about-face" from previous SEC views on the detection and prevention of manipulation of a company's stock price through open-market repurchases.[39] Rule 10b-18 states that a company will not be charged with stock-price manipulation if, among other things, its buybacks on any single day are no more than 25 percent of the previous four weeks' average daily trading volume (ADTV).

Under Rule 10b-18, moreover, there is no presumption of manipulation if the corporation's repurchases exceed the 25 percent ADTV limit.[40] As mentioned earlier, a company is not required to disclose to the SEC—never mind to the public—data that would show whether on any particular day the ADTV cap has been exceeded. Of course, suspicious of a breach, the SEC could obtain this information by conducting a special investigation. In the 43 years during which Rule 10b-18 has been in force, however, no such investigations have been conducted.[41]

Under Rule 10b-18, many large publicly listed companies can do hundreds of millions or even billions of dollars of open-market repurchases per day, trading day after trading day, for the sole purpose of giving manipulative boosts to their stock prices. Take, for example, the ADTV "limits" for the ten companies named above that were the top ten industrial repurchasers in 2024. To maintain access to the Rule 10-18 safe harbor, the ADTV (on December 12, 2025) of these companies could be no more than, in descending order, Nvidia, $8.9 billion; Microsoft, $3.0 billion; Apple, $3.0 billion; Meta, $2.9 billion; Alphabet, $2.3 billion; Exxon Mobil, $451 million; Adobe, $395 million; Chevron, $336 million; T-Mobile, $243 million; and Marathon, $89 million. And, under Rule 10b-18, these companies can repeat buybacks on this scale trading day after trading day, with impunity from market-manipulation charges. Not to mention that, in the mid-1990s, the Wall Street firm Salomon Brothers came up with a scheme called the accelerated share repurchase (ASR), in which the repurchasing company enters into a contract with a bank to do the repurchases on trading days at its discretion over a period of time, say one year, staying within the ADTV limit on each of those trading days. To give a super-manipulative boost to the company's stock price, however, all those repurchases across all those trading days are treated as shares that are retired on the date the ASR contract is signed.[42]

Already, by 1984 (after corporate lawyers had a chance to get up to speed on Rule 10b-18 and advise their corporate clients), major business corporations, and especially Old Economy companies, listed on NYSE, were doing large-scale open-market repurchases. In the 1980s, younger New Economy companies were reinvesting profits in productive capabilities as the firms took advantage of new growth opportunities in microelectronics, biotechnology, and related fields. Apple's financialized behavior from 1985, after Jobs had departed, was an exception to this rule for such a young company—and, as we have seen, almost drove the company into bankruptcy.

By the late 1990s, and even more so thereafter, however, some New Economy companies, such as Intel, Microsoft, and Oracle, became large-scale share repurchasers. They compensated a broad base of employees with stock options, and to some extent viewed buybacks as offsetting dilution that resulted from stock-option plans. Our research into the repurchasing behavior of specific companies reveals, however, that, once a company began doing buybacks, the number of shares repurchased vastly exceeded the number of shares issued to employees as stock-based compensation.[43]

In the US pharmaceutical industry, both large drug companies and small biotech startups are highly financialized. The established corporations such as Bristol Myers Squib, Johnson & Johnson,

Merck, and Pfizer claim that they need high prices on their existing drugs to fund the development of the next generation of safe and effective medicines. Yet, for the decade 2013-2022, 14 pharmaceutical companies in the S&P 500 Index in January 2023 distributed 54 percent of net income as dividends and another 51 percent as buybacks. The $773 billion that these pharmaceutical companies distributed to shareholders over the decade was 10 percent greater than the $701 billion that they expended on R&D. While their senior executives raked in tens of millions of dollars in realized gains from stock-based pay, these companies made use of the profits from high drug prices to rachet up their stock yields.[44]

Since the 1980s, much of the R&D for innovative medicines has taken place in the labs of biotech startups. With the help of the SEC (and with the microelectronics revolution in mind), NASDAQ was launched in 1971 to provide more liquid trading conditions for highly speculative firms, which shortened the time between the founding of a high-technology company and a possible IPO. When biotech companies do their IPOs on NASDAQ after, on average, five years from founding, they rarely have a commercial product, much less profits.[45] Ironically, it is in this sector, with its highly expensive and uncertain R&D costs, that, more than any other in US history, companies have been able to use the speculative stock market to do primary and secondary stock issues to fund innovation strategies. But the prevalence of product-less IPOs means that their venture capitalists and founder-entrepreneurs can become incredibly wealthy at the IPO, even when the biotech company, the shares of which they have cashed, never generates a safe and effective medicine.

Meanwhile, whether in pharmaceuticals or any other industry, corporate raiders can threaten to take strategic control of established companies, while, as we have seen in the case of Icahn and Apple, holding just one or two percent of the outstanding shares.[46] In 1988, the US Department of Labor (DOL) issued what has become known as the "Avon letter", which deemed it a fiduciary obligation for pension funds to vote the shares in their asset portfolios. In 2003, a ruling by the SEC extended this fiduciary obligation to mutual funds—in effect, ratifying the DOL's Avon letter position—thus making it much easier for a hedge-fund activist with only a small percentage of a company's shares outstanding to line up a large block of proxy votes of institutional shareholders for board elections, and thus pose a credible threat to incumbent management's strategic control. In mobilizing the proxy votes, the activists can get help by lobbying the two major proxy advisors, ISS and Glass Lewis, which, in the wake of the 2003 SEC ruling, emerged, unregulated, to dominate the business of recommending to institutional shareholders a slate of candidates for election to the corporate board. The hedge-fund activist seeks to influence the proxy advisors to recommend to fund managers that they should vote for the slate of "value-extracting" directors.

The National Securities Markets Improvement Act of 1996[47] augmented the regulatory power of the federal government, and especially the SEC, vis-à-vis the states (which had often protected incumbent management) in amending the Investment Company Act and Investment Advisers Act, both of 1940. The 1996 Act removed the size restrictions on hedge funds and private-equity funds that had previously limited them to 99 investors to be eligible for an exemption from regulation under the 1940 Acts. As a result, assets under management by unregulated hedge funds (and

private-equity funds) soared from the late 1990s, augmenting the financial power of hedge-fund activists to engage in predatory value extraction while giving fund managers of pensions and university endowments, among others, stakes in activist campaigns in their quest for higher yields on their financial portfolios. Even if a company is not being openly confronted by hedge-fund activists demanding that a company "unlock value" for shareholders by increasing share repurchases, corporate CEOs and their boards do the buybacks in any case as the very expensive payments in the corporate protection racket that, in the name of "maximizing shareholder value", all the thereby-enriched parties have accepted as the way the "game" is played.

5. Predatory Value Extraction or Progressive Value Creation?

I conclude this paper with brief statements (supported by bibliographic references) of three major lessons related to economic ideology, economic performance, and economic policy that one can learn from my study of corporate finance in the theory of innovative enterprise.

Economic ideology: Beware the myth of the market economy promulgated by neoclassical theory, including its agency-theory application, which has legitimized corporate financialization by arguing, against logic and fact, that, for the sake of economic efficiency a company should "maximize shareholder value". Neoclassical economists begin with the theoretical absurdity that the most unproductive firm is the foundation of the most efficient economy, which leads them to accept the validity of the fallacious argument that public shareholders are investors in the productive capabilities of the companies in which they hold stock.[48]

Economic performance: In terms of the social conditions of innovative enterprise, corporate financialization attacks strategic control and organizational integration, the decline of which erodes a corporation's dominant position, and hence profit stream, and thereby its main source of financial commitment. The losers are a) workers—a company's real value creators—whose wages are suppressed and jobs disappear; b) households as taxpayers, who fund government investments in physical infrastructure and human knowledge that corporations use to create value, but then find that corporate executives oppose the payment of corporate taxes—as well as taxes on the predatory value extractions of the top 0.1 percent—to support replenishment and improvement of that infrastructure and knowledge; and c) the nation, which relies upon its business corporations to invest in innovation in a range of critical technologies (e.g., aviation, transportation, communication, energy, life sciences)—but, with the corporate addiction to predatory value extraction, loses global leadership.[49]

Economic policy: Confront predatory value extraction; promote progressive value creation. For innovation to result in sustainable prosperity, the innovative enterprise must have the purposeful progressive-value-creating goal of ensuring that those participants—including households as workers, taxpayers, consumers, and inhabitants—who make contributions to corporate value creation have the power to extract their fair share of value. Based on the types of evidence and arguments presented in this paper, I propose a five-part corporate-governance reform agenda that includes a) banning stock buybacks as open-market repurchases; b) tying executive compensation to progressive value creation, not predatory value extraction; c) placing, as

appropriate, representatives of workers, taxpayers, communities, and consumers as directors on corporate boards (while excluding predatory value extractors); d) structuring the tax system to support progressive value creation, not predatory value extraction; and e) aligning the investment strategies of innovative business corporations to work with developmental government agencies and supportive household units—what I elsewhere call the investment triad—in providing opportunities for its people to pursue collective and cumulative careers.[50]

Notes:

[1] U.S. Census Bureau, "2022 SUSB Annual Data Tables by Establishment Industry," Data and Maps, August 4, 2025.

[2] William Lazonick, "The Theory of Innovative Enterprise: Foundations of Economic Analysis," in Thomas Clarke, Justin O'Brien, and Charles R. T. O'Kelley, eds., *The Oxford Handbook of the Corporation*, Oxford University Press, 2019: 490-514.

[3] William Lazonick, *Sustainable Prosperity in the New Economy? Business Organization and High-Tech Employment in the United States*, Upjohn Institute for Employment Research, 2009.

[4] Lazonick, "Theory of Innovative Enterprise".

[5] Lazonick, *Sustainable Prosperity*; William Lazonick, *Investing in Innovation: Confronting Predatory Value Extraction in the US Corporation*, Cambridge University Press.

[6] For an early statement, see William Lazonick, "Controlling the Market for Corporate Control: The Historical Significance of Managerial Capitalism," *Industrial and Corporate Change*, 1, 3, 1992: 445-488.

[7] William Lazonick, "The Functions of the Stock Market and the Fallacies of Shareholder Value," in Ciaran Driver and Grahame Thompson, eds., *What Next for Corporate Governance?* Oxford University Press, 2018: 117-151; William Lazonick, "The Value-Extracting CEO: How Executive Stock-Based Pay Undermines Investment in Productive Capabilities," *Structural Change and Economic Dynamics*, 48, 2019: 53–68; William Lazonick and Jang-Sup Shin, *Predatory Value Extraction: How the Looting of the Business Corporation Became the US Norm and How Sustainable Prosperity Can Be Restored*, Oxford University Press, 2020; Lazonick, I*nvesting in Innovation*.

[8] William Lazonick, Mariana Mazzucato, and Öner Tulum, "Apple's Changing Business Model: What Should the World's Richest Company Do With All Those Profits?" *Accounting Forum*, 37, 4, 2013: 249-267; William Lazonick, "Numbers Show Apple Shareholders Have Already Gotten Plenty," *Harvard Business Review*, October 16, 2014; William Lazonick, "What Apple Should Do With Its Massive Piles of Money," *Harvard Business Review*, October 20, 2014; William Lazonick, Matt Hopkins, and Ken Jacobson, "What We Learn about Inequality from Carl Icahn's $2 Billion 'No Brainer'," Institute for New Economic Thinking Perspectives, June 6, 2016; William Lazonick, "Apple's 'Capital Return' Program: Where Are the Patient Capitalists?" Institute for New Economic Thinking Perspectives, November 13, 2018; William Lazonick and Matt Hopkins, "Why the CHIPS Are Down: Stock Buybacks and Subsidies in the U.S. Semiconductor Industry," Institute for New Economic Thinking Working Paper No. 165, November 1, 2021.

[9] John Markoff, "Michael Dell should eat his words, Apple chief suggests," *New York Times*, January 16, 2006.

[10] Trevor Hunnicutt and Jonathan Stempel, "Warren Buffett is now Apple's biggest shareholder—and he wants to own more," *Financial Post*, May 17, 2018.

[11] On all these issues, see the papers on Apple and tech cited above, and Matt Hopkins and William Lazonick, "Discharging the EV Transition: Why the United States Is Not an Innovator in Rechargeable Batteries," Academic-Industry Research Network, forthcoming 2026.

[12] Executive and director compensation calculations are by Matt Hopkins of the Academic-Industry Research Network.

[13] Lazonick et al. "What We Learn",

[14] William Lazonick, Mustafa Erdem Sakinç, and Matt Hopkins, "Why Stock Buybacks are Dangerous for the Economy," *Harvard Business Review*, January 7, 2020; William Lazonick and Matt Hopkins, "How 'Maximizing Shareholder Value' Minimized the Strategic National Stockpile," Institute for New Economic Thinking Working Paper No. 127, July 21, 2020.

[15] https://shillerdata.com/

[16] Robert J. Shiller, *Irrational Exuberance*, Princeton University Press, revised edition, 2015.
[17] Securities and Exchange Commission, "Purchases of Certain Equity Securities by the Issuer and Others" (November 10, 2003), *Federal Register*, Rules and Regulations, p. 64.
[18] Shiller, *Irrational Exuberance*, p. 316.
[19] John Ramsay, Investors Exchange LLC, "Letter to Brent J. Fields, Securities and Exchange Commission," March 27, 2018.
[20] Matt Hopkins and William Lazonick, "The Mismeasure of Mammon: Uses and Abuses of Executive Pay Data," Institute for New Economic Thinking Working Paper No. 49, August 29, 2016.
[21] Lazonick, *Sustainable Prosperity*, ch. 3.
[22] Ibid.
[23] Lazonick, *Investment in Innovation.*
[24] William Lazonick, Philip Moss, and Joshua Weitz, *The Equal Employment Opportunity Omission: Barriers to African American Upward Mobility in the Era of Maximizing Shareholder Value*, Cambridge University Press, forthcoming.
[25] William Lazonick, "Corporate Restructuring," in Stephen Ackroyd, Rose Batt, Paul Thompson, and Pamela Tolbert, eds., *The Oxford Handbook of Work and Organization*, Oxford University Press, 2004: 577-601.
[26] John Dean, "Causes and Consequences of Growth by Conglomerate Merger: An Introduction," *St. John's Law Review*, 44, 1969-70: 15-35: Martin Mellman and Norman Prisand, "That Complex Earnings Per Share Figure (A Product of the Merger Movement)," *St. John's Law Review*, 44, 1969-70: 897-904; John Brooks, *The Go-Go Years*, Wiley, 1973; Richard Rumelt, *Strategy, Structure, and Economic Performance*, Harvard Business School Publishing, 1974; Robert Sobel, *The Rise and Fall of the Conglomerate Kings,* Beardbooks, 1984; David J. Ravenscraft and Frederic M. Scherer, *Mergers, Sell-offs, and Economic Efficiency*, Brookings Institution, 1987; Mary A. O'Sullivan, *Contests for Corporate Control*, Oxford University Press, 2000, ch. 4; Samuel Knafo and Sahil Jai Dutta, "The Myth of the Shareholder Revolution and the Financialization of the Firm," *Review of International Political Economy*, 27, 3, 2020: 476-499.
[27] Connie Bruck, *The Predators' Ball: The Inside Story of Drexel Burnham and the Rise of the Junk Bond Raiders*, Simon & Schuster, 1988.
[28] Ibid.
[29] Jesse Kornbluth, *Highly Confident: The Crime and Punishment of Michael Milken*, William Morrow, 1992
[30] Louis Lowenstein, *What's Wrong with Wall Street?* Basic Books, 1989; Bryan Burrough and John Helyar, *Barbarians at the Gate: The Fall of RJR Nabisco, Harper, 1990*; Margaret Blair, ed., *The Deal Decade; What Takeovers and Leveraged Buyouts Mean for Corporate Governance*, Brookings Institution, 2010.
[31] David Manry and David Stangeland, "Greenmail: A Brief History," *Stanford Journal of Law, Business & Finance*, 62, 2000-01: 217-238.
[32] Roberta Karmel, "Greenmail, the Control Premium, and Shareholder Duty," *Washington and Lee Law Review*, 48, 1991: 937-976.
[33] E. A. Lustig, "Emerging Role of the Federal Tax Law in Regulating Hostile Corporate Takeover Defenses: The New Section 5881 Excise Tax on Greenmail," *University of Florida Law Review*, 40, 4, 1988: 789-828.
[34] U.S. Securities and Exchange Commission, "Purchases of Certain Equity Securities by the Issuer and Others; Adoption of Safe Harbor," November 17, 1982, *Federal Register* 47, 228, November 26, 1982: 53333–53341; William Lazonick and Ken Jacobson, "Letter to SEC: How Stock Buybacks Undermine Investment in Innovation for the Sake of Stock-Price Manipulation," Institute for New Economic Thinking Perspectives, April 1, 2022.
[35] Ken Jacobson and William Lazonick, "License to Loot: Alternative Views of Capital Formation and the Adoption of SEC Rule 10b-18," Academic-Industry Research Network, forthcoming.
[36] Lazonick, *Investing in Innovation.*
[37] Ibid.
[38] David A. Vise and Steve Coll, *Eagle on the Street*, Collier Books, 1992.
[39] Lloyd H. Feller and Mary Chamberlin, "Issuer Repurchases," *Review of Securities Regulation,* 17, 1, 1984: 993–998.
[40] U.S. Securities and Exchange Commission, "Division of Trading and Markets: Answers to Frequently Asked Questions Concerning Rule 10b-18 ('Safe Harbor' for Issuer Repurchases)," SEC Division of Trading and Markets. For the safe harbor to be in effect, Rule 10b-18 also requires that the company refrain from doing buybacks at the beginning and end of the trading day, and that it execute all the buybacks through one broker only.

[41] Lazonick and Jacobson, "Letter to SEC".

[42] Anon., "Capital securities prompt more ASRs," *CFO Alert*, February 24, 1997; Allen Michel, Jacob Oded, and Israel Shaked, "Not All Buybacks Are Created Equal: The Case of Accelerated Stock Repurchases," *Financial Analysts Journal*, 66, 6, 2010: 55-72; Matt Hopkins and William Lazonick, "How GM's $10-Billion Buyback May Ice Its EV Transition," Institute for New Economic Thinking, December 18, 2023.

[43] Lazonick, *Sustainable Prosperity*, ch. 2; Marie Carpenter and William Lazonick, "The Pursuit of Shareholder Value: Cisco's Transformation from Innovation to Financialization." Institute for New Economic Thinking Working Paper No. 202, February 21, 2023; Matt Hopkins and William Lazonick, "The Financial Virus Inside Intel: Why Did Gordon Moore and Andrew Grove Do Stock Buybacks in the 1990s?" Academic-Industry Research Network, forthcoming.

[44] William Lazonick and Öner Tulum, "Sick with 'Shareholder Value': US Pharma's Financialized Business Model During the Pandemic," *Competition & Change* 28, 2, 2024: 251-273; Öner Tulum and William Lazonick, *Innovation versus Financialization in the US Pharmaceutical Industry*, Cambridge University Press, 2025.

[45] William Lazonick and Öner Tulum, "US Biopharmaceutical Finance and the Sustainability of the Biotech Business Model," *Research Policy*, 40, 9, 2011: 1170-118; William Lazonick and Öner Tulum, "The New Economy Business Model and the Tension Between Innovation and Financialization in Research-Intensive Industries," Academic-Industry Research Network, AIR Report #24-07/22, July 2024; Jay R. Ritter, "Initial Public Offerings: Life Science (Biotech and Pharmaceutical) IPOs Through 2014," University of Florida, April 9, 2025. For a detailed case study, see Öner Tulum and William Lazonick, "Moderna: Its 'Science for Money' Business Model," Academic-Industry Research Network, January 2026.

[46] David Dayen, "What Good are Hedge Funds?" *American Prospect*, Spring 2016; Lazonick and Shin, *Predatory Value Extraction*; Jang-Sup Shin, *The Rhetoric and Reality of Shareholder Democracy and Hedge-Fund Activism*, Cambridge University Press, 2024.

[47] US Congress, "National Securities Market Improvement Act of 1996," Public Law 104-290, October 11, 1996.

[48] Lazonick, "The Functions of the Stock Market"; William Lazonick, "Maximizing Shareholder Value as an Ideology of Predatory Value Extraction," in Knut Sogner and Andrea Colli, eds., *The Emergence of Corporate Governance*, Routledge, 2021: 170-186; William Lazonick, "Is the Most Unproductive Firm the Foundation of the Most Efficient Economy? Penrosian Learning Confronts the Neoclassical Fallacy," *International Review of Applied Economics*, 38, 1-2, 2024: 58-89.

[49] Lazonick, *Investing in Innovation*; Tulum and Lazonick, *Innovation versus Financialization*; Lazonick et al., *The Equal Employment Opportunity Omission*; papers and articles on the websites of the Institute for New Economic Thinking and the Academic-Industry Research Network.

[50] William Lazonick "The Investment Triad and Sustainable Prosperity," in Peter Creticos, Larry Bennett, Laura Owen, Costas Spirou, and Maxine Morphis-Riesbeck, eds., *The Many Futures of Work: Rethinking Expectations and Breaking Molds*, Temple University Press, 2021: 120-151; Lazonick, *Investing in Innovation*; William Lazonick, "Progressive Value Creation or Predatory Value Extraction? Reforming US Corporate Governance to Support Stable and Equitable Growth, Academic-Industry Research Network, AIR Report #24-08/01 August 2024; William Lazonick, "Corporate Financialization and Socioeconomic Precarity: Processes, Consequences, and Remedies," in Charles J. Whalen, ed. *Fashioning Prosperous, Sustainable and Humane Societies: Beyond Precarity*, Edward Elgar, 2025: 267-286.

ACKNOWLEDGMENT

The research that underpins this paper has been funded by the Institute for New Economic Thinking and the Canadian Institute for Advanced Research (CIFAR) through its program on Innovation, Equity & the Future of Prosperity.

ABOUT

The Academic-Industry Research Network – theAIRnet – is a private, 501(c)(3) not-for-profit research organization devoted to the proposition that a sound understanding of the dynamics of industrial development requires collaboration between academic scholars and industry experts. We engage in up-to-date, in-depth, and incisive research and commentary on issues related to industrial innovation and economic development. Our goal is to understand the ways in which, through innovation, businesses and governments can contribute to equitable and stable economic growth – or what we call "sustainable prosperity".

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