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The Academic-Industry Research Network

Innovative Enterprise Associates
INTELLIGENT ECONOMIC ANALYSIS

Innovative Enterprise Associates (IEA): consulting services on corporate-governance issues, with a specific focus on how corporate resource allocation affects the well-being of workers and their communities.

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Insights, evidence, and advice on corporate compensation

The Academic-Industry Research Network (AIRnet), a 501(c)(3) research organization, has established *Innovative Enterprise Associates (IEA)* to provide consulting services on corporate-governance issues, with a specific focus on how corporate decision-making concerning resource allocation affects the well-being of workers and their communities. IEA offers bespoke insights, evidence, and advice, rooted in AIRnet's unique research.

Since its founding in 2010, AIRnet has engaged in, and refined its approach to, data-driven research, applying William Lazonick's Theory of Innovative Enterprise (TIE). Besides analyzing information available by subscription, AIRnet builds and maintains its own proprietary databases. AIRnet has expertise in doing studies of the dynamics of innovation and financialization in specific companies and specific industries, set within the broader contexts of national institutions and global competition.

Innovation as a source of value creation exists in dynamic tension with financialization as a mode of value extraction. From our perspective, how corporate leaders allocate economic resources in response to this tension is central to understanding the modern economy. We want the business corporation to engage in "progressive value creation," retaining and reinvesting its revenues while sharing its profits equitably among its stakeholders. But in a corporate-governance environment dominated by the ideology that a company should be run to "maximize shareholder value," corporate resource allocation tends to prioritize "predatory value extraction."

A major influence on corporate resource allocation is the compensation of top corporate managers, especially senior executives and directors. AIRnet researchers are leading experts in the analysis of corporate compensation. We pay close attention to the incentives that stock-based compensation (SBC) can create for companies to downsize their labor forces and distribute corporate cash to shareholders in the form of stock buybacks and dividends.

In the area of corporate compensation, IEA can provide insights, evidence, and advice on:

- the measurement, components, and design of executive pay
- the measurement, components, and design of director pay
- the relation between top-management compensation and management misbehavior (e.g., price gouging, mass layoffs, stock buybacks, and tax avoidance)

IEA focuses on the power relations that determine corporate resource allocation, including:

- committed stakeholders who demand investment in innovation and progressive value creation
- institutional shareholders who pressure management to engage in predatory value extraction
- hedge-fund managers who use "activist campaigns" to loot value created by employees and their supporting communities

Manifestations of corporate financialization and predatory value extraction are:

- stock buybacks, which manipulate the stock market and leave most employees and their communities worse off
- the failure of corporations to invest in innovation, which includes first and foremost investment in the productive capabilities of the labor force
- an increasingly inequitable income distribution that is extremely highly concentrated among the richest households

Ten illustrative examples of the types of analysis of corporate compensation that IEA can deliver

1. Stock-based compensation and stock buybacks

In 2013–2022, the 478 corporations in the S&P 500 Index in September 2023 that were publicly traded over the decade distributed *$6.4 trillion* as stock buybacks, 57 percent of their net income, on top of *$4.5 trillion* as cash dividends, another 40 percent of net income.[1] In 2022, a year in which companies in the S&P 500 Index did record buybacks of $904 billion, the top ten repurchasers did 28 percent of the total, the top 25 43 percent, and the top 50 59 percent. In that year, the five biggest repurchasers were Apple with $89.4 billion, Alphabet $30.2 billion, Microsoft $28.0 billion, Meta $28.0 billion, and Exxon Mobil $15.2 billion.

US-style stock-based compensation (SBC) granted to senior executives and corporate directors incentivizes massive stock buybacks, increasing their take-home pay. Stock buybacks use funds looted from corporate treasuries that could have been invested in the company's productive capabilities, including the wages and benefits of employees. SBC also incentivizes corollary management misbehavior to increase profits by price gouging, wage suppression, employee layoffs, and tax avoidance. Profits inflated by these practices foment speculation in the company's stock price while providing more funds that top management can use to execute more buybacks, giving further manipulative boosts to both the company's stock price and their own pay.

2. The mismeasure of stock-based compensation

The media as well as most progressive civil-society and labor organizations devote considerable attention to the explosion of CEO compensation. The consensus is that the level of CEO pay is unfair. It obviously is, but it is much worse than even the critics are often aware.

AIRnet research has shown that the grant-date (aka "fair value") measure of CEO (and other top management) compensation that is widely reported understates—at times vastly—the *actual realized-gains* (i.e., take-home and taxable) compensation of senior executives and corporate directors.[2] By ignoring stock-price changes as determinants of senior management compensation, grant-date measures fail to capture the incentives that SBC (stock options and stock awards) create for top management to allocate corporate resources in ways that can be harmful to the well-being of employees and the innovative future of the company.

Here is a dramatic (but not rare) example of the difference between grant-date value and the actual realized gains of SBC. As CEO of Gilead Sciences from 1996 to 2015, John C. Martin's total compensation including grant-date SBC was valued at $204.6 million, while his total actual compensation (on which he paid federal income taxes, and which Gilead expensed on its corporate tax returns) was *$1,000.9 million*. Realized gains from SBC made up 95 percent of his actual

[1] See William Lazonick and Öner Tulum, "Sick with 'Shareholder Value': US Pharma's Financialized Business Model During the Pandemic," ***Competition & Change***, 26, 2, 2023: 1–23.

[2] 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; William Lazonick and Matt Hopkins, "Corporate executives are making way more money than anyone reports," ***The Atlantic***, September 15, 2016; William Lazonick and Matt Hopkins, "If the SEC Measured CEO Pay Packages Properly, They Would Look Even More Outrageous," ***Harvard Business Review***, December 22, 2016; William Lazonick and Matt Hopkins, "Comment on the Pay Ratio Disclosure Rule," **public comment** to the U.S. Securities and Exchange Commission, March 21, 2017; Matt Hopkins and William Lazonick, "What the UAW and Everyone Else Need to Know About CEO Pay," **Institute for New Economic Thinking**, October 2, 2023.

compensation. Much of the difference occurred in 2014 and 2015, during which Martin took home $192.8 million and $232.0 million, respectively, compared with the grant-date measures of his total compensation in those two years of “just” $19.0 million and $18.8 million.

Propelling Martin’s megapay in 2014–2015 were surges of Gilead’s profits, based on massive revenues from its price-gouging of Sovaldi/Harvoni drugs. To further boost its soaring stock price, Martin executed $15.3 billion in buybacks in 2014–2015, while Gilead paid its first dividend ($1.9 billion) in 2015. From 2012 to 2015, Gilead’s revenues increased by 3.4 times and its profits by 7.0 times. The stock price increase was 4.4 times from July 2012 to its all-time peak in July 2015. With Gilead’s stock price skyrocketing in 2014 and 2015, Martin cashed in on his stock options and stock awards to the tune of *$17.7 million per month*.

3. Stock-based compensation and the “rachet effect”

Martin’s grant-date SBC—that is, the grant-date value of the new options and awards that the Gilead board conferred on him—was $13.6 million in 2014 and $13.0 million in 2015. None of this $26.6 million of grant-date value was money in the bank for Martin. The grants of options and awards gave him access to corporate shares that might be worth a whole lot more in the future, if Gilead could manage to pump up the company’s stock price through some combination of innovation, speculation, and manipulation.

The dollar amounts of Martin’s grant-date SBC were recommended to the Gilead compensation committee by the executive-compensation consultants (Compensia in 2014 and FW Cook in 2015) hired by the CEO. It is well known that, in providing compensation advice to many different companies, consultants tend to choose grant-date SBC amounts that place the CEO concerned no lower than the 75th percentile among his or her selected “peer group.” In addition to other ways in which executives can game the compensation system, the result over time is a “rachet effect” as the threshold amount of the 75th-percentile grant-date SBC is constantly being bid up. It is then up to a soaring stock price to transform, in the years to come, the rachet-effected grant-date SBC into the exploding realized-gains that constitute the CEO’s actual pay.

4. The highest-paid CEOs

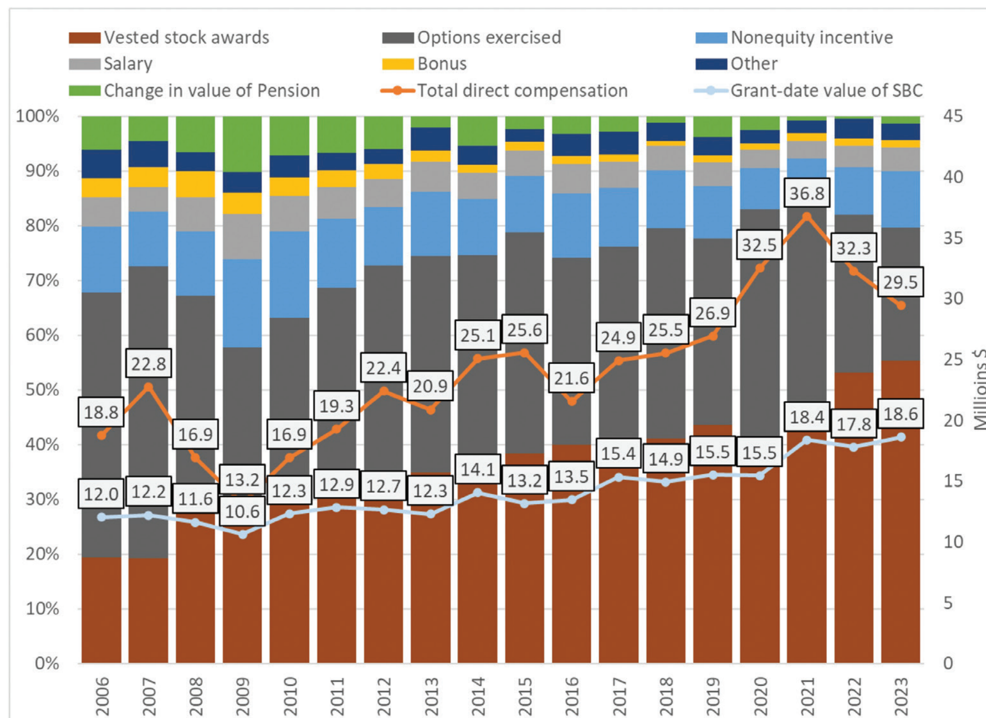
The following graph for the 500 highest-paid CEOs in the United States in each year from 2006 through 2023 shows the proportionate components of their total direct compensation (TDC), including realized gains from SBC, as well as two series that compare their average total “pay,” using the two different measures of SBC.

The upper series is average “realized gains” TDC. The lower series is average total valuation of compensation using the grant-date value of SBC. Average TDC ranges from, with the stock market depressed, a low of $13.2 million in 2009, of which 58 percent was realized gains of SBC, to, with the stock market booming, a high of $36.8 million in 2021, of which 83 percent was realized gains of SBC.

Note that TDC is volatile, varying with the ups and downs of the stock market. CEOs tend to exercise their options and achieve the vesting of their awards (which often have performance conditions related to stock price) when the stock market is rising. But the grant-date value series displays virtually no variation with stock-market fluctuations because the formulae used to calculate grant-date values assume away stock-market volatility.

Meanwhile, invoking the 75th-percentile rule, compensation consultants advise the company to grant options and awards with increasing total grant-date values. One "irony" of this method of setting executive compensation is that if an executive is awarded, say, $15-million grant-date SBC two years running, the executive will be rewarded with *more shares* in the grant in the year in which the company's *stock price is lower*. What the grant-date value of SBC series displays in the following graph is the rachet effect, with average "grant-date" valuation of total compensation rising from $10.6 million in 2009 to $18.6 million in 2023.

Components of total direct compensation (TDC) (incl. realized gains from SBC) and average TDC of the 500 highest-paid US CEOs compared with average total grant-date value of SBC



Note: To avoid skewing the averages, the following executives with extraordinarily high compensation in certain years have been removed from the dataset for those years: 2012, Mark Zuckerberg, Meta, $2.3 billion and Richard Kinder, Kinder Morgan, $1.1 billion; 2013, Mark Zuckerberg, Meta, $3.3 billion; 2016, Elon Musk, Tesla, $1.3 billion; 2021, Elon Musk, Tesla, $23.5 billion; 2022, Gary Friedman, Restoration Hardware, $995 million; 2023, Brian Chesky, Airbnb, $943 million.

Source: S&P ExecuComp database, calculations by Matt Hopkins, Academic-Industry Research Network.

5. How much did the very highest-paid CEO take home in one year?

To date, by far the highest-paid CEO in terms of realized gains in one year is Elon Musk, with his take-home pay of *$23.5 billion in 2021*. If Musk's haul in 2021 had been included in constructing the graph above on the 500 highest-paid CEOs, their average TDC in 2021 would have been *$83.7 million*, more than double the $36.8 million shown in the graph. If and when Musk exercises the options in his 2018 stock-option grant, with a grant-date value of $2.3 billion, he could very well double his record-breaking 2021 realized gains.[3]

The use of the grant-date value of SBC as the measure of Musk's compensation misses his record-breaking realized gains in 2021. For example, in its annual report on the "100 Most Overpaid CEOs" for 2021, based on grant-date measures, the progressive think-tank *As You Sow* fails to include Musk in their list because, using grant-date accounting, they record his 2021 compensation as zero.[4] In fact, in 2021 Musk reaped $23.5 billion, as he exercised his options from a package with a grant-date value of $78 million that the Tesla board (with Musk as chair) had bestowed upon him in 2012.

As You Sow will never record that $23.5 billion in any of its future compensation reports. In making this error, *As You Sow* is not alone. For example, in its report on the 2021 pay of CEOs of companies included in the S&P 500 Index, *Wall Street Journal* places Musk dead last at $0.[5] In presenting its list of highest-paid executives in 2021, the *New York Times* published an article, "How Elon Musk helped lift the ceiling on C.E.O. pay," which refers to the grant-date value of $2.3 billion of Musk's 2018 option package but ignores his actual 2021 income of $23.5 billion from his 2012 option grant.[6]

6. When the purpose of CEO compensation is strategic control

Case-study research tells us that CEO SBC is not always handed out just for the purpose of ratcheting up compensation. For Elon Musk, the highest-paid CEO on Earth, stock-option packages, ostensibly representing his compensation, have been used as means for enabling him to retain his position of *strategic control* at Tesla. The company's board, with Musk as chair, granted Musk as CEO, three stock-option packages, one in 2009 which represented eight percent of Tesla's shares outstanding, one in 2012 for five percent, and one in 2018 for 12 percent. The ostensible purpose of these option grants was to enable Musk to accumulate sufficient voting power to fend off hedge-fund activists' attacks on his position of strategic control at Tesla.[7]

Musk's 2018 stock-option package had a record grant-date value of $2.3 billion because its purpose was to provide Musk with options equal to 12 percent of Tesla's shares outstanding. Musk's three stock-option packages came with vesting requirements that, in essence, were premised upon Tesla's overall success in carrying out its innovation strategy. After meeting various performance criteria, the 2018 options vested in 12 tranches through the end of 2023. The fully vested options, based on the market value of Tesla's stock price in early 2024, would have generated $56 billion in realized gains for Musk had he chosen to exercise them at that time. Besides this extraordinary wealth, however, the 2018 option package could have, when fully vested, increased Musk's voting power from a tenuous 13 percent of Tesla's total votes to a much more solid 25 percent.

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[3] Matt Hopkins and William Lazonick, "Tesla as a Global Competitor: Strategic Control in the EV Transition," Institute for New Economic Thinking **Working Paper No. 225**, September 7, 2024.

[4] Rosanna Landis Weaver and Melissa Walton, "The 100 most overpaid CEOs," ***As You Sow***, February 2022.

[5] Inti Pacheco and Theo Fracis, "The highest paid CEOs in the S&P 500: The top pay packages in 2021," ***Wall Street Journal***, May 15, 2022.

[6] Peter Eavis, "How Elon Musk helped to lift the bar on C.E.O. pay," ***New York Times,*** June 25, 2022.

[7] Hopkins and Lazonick, "Tesla as a Global Competitor."

In fact, because of dilution due to shares issued for other purposes, the vested 2018 options may increase his voting power by 9.5 percent rather than 12 percent.

Assuming that Musk can keep the 2018 stock options (the Delaware Court of Chancery has declared them invalid), their voting power will help protect his strategic control over Tesla against outside shareholders. Meanwhile, Tesla's issuance of shares to raise funds and to provide SBC to employees has been integral to its innovation strategy. Consequently, Musk's proportional share ownership has declined over time, causing him to seek ever more outrageous "compensation" in the form of massive option grants, for the purpose of bolstering his strategic control.

7. Can directors be independent when they are getting megarich from their board pay?

Most of the Tesla directors who approved Musk's 2018 option package made out quite well for themselves. As shown in the following table, since 2014, Robyn Denholm, now Tesla chair, has reaped realized gains of $353 million by exercising stock options received as a Tesla director. On August 12, 2024, moreover, she possessed unexercised options on which she could have raked in an additional $285 million. Among the other Tesla board members in 2018 were Ira Ehrenpreis, who since 2010 has realized gains of $396 million on the director options that he has exercised, with another approximately $195 million in options available to exercise; and James Murdoch, who since 2016 has reaped $56 million from stock options, with $173 million in unexercised options remaining.

Denholm, Ehrenpreis, and Murdoch are all supposed to be "independent" directors, without conflicts of interest in exercising their oversight of the company. Yet, not surprisingly, Denholm has described her Tesla director pay as "life changing."[8] If a director is dropped, moreover, he or she loses access to already granted stock options that are either unvested or under water. For example, Linda Johnson Rice was on the Tesla board from 2016 to 2019, during which time her realized gains from stock options were *$135,000*, about equal to the cash stipend that she received as a director over her three-year term. If she had still been on the board in 2021, when Tesla's stock price peaked, the options that she had to leave on the table in 2019 could have fetched $173 million in realized gains.[9]

[8] Delaware Court of Chancery, "Post-trial opinion" Richard J. Tornetta v. Elon Musk, Robyn J. Denholm, Antonio J. Gracias, James Murdoch, Linda Johnson Rice, Brad W. Buss, and Ira Ehrenpreis, and Tesla, Inc., In the Court of Chancery of the State of Delaware, April 25, 2024, pp. 24–25.

[9] Rice stepped down from the Tesla board in 2019, when it was reduced from 11 to 7 directors in order to, according to the company, "allow it to operate more nimbly and efficiently." Neal E Boudette, "Tesla to shrink board of directors by four people," ***New York Times,*** April 19, 2019. In January 2024, ***Wall Street Journal*** reported: "One former Tesla director, Linda Johnson Rice, grew so frustrated with Musk's volatile behavior and her concerns about his drug consumption that she didn't stand for re-election to the electric-car company's board in 2019, according to people familiar with the matter." Emily Grazer and Kirsten Grind, "Elon Musk has used illegal drugs, worrying leaders at Tesla and SpaceX," ***Wall Street Journal,*** January 6, 2024.

Compensation of non-Musk directors who were on the Tesla board in 2018

Director	Years as director	Total direct compensation, $m	% total direct compensation from stock options	Potential realized gains, $m, as of 8/12/2024
Robyn Denholm	2014-2024	352.9	99.9	284.7
Brad Buss	2010-2019	24.6	98.7	*
Ira Ehrenpreis	2010-2023	396.2	99.9	195.5
James Murdoch	2016-2024	56.4	99.8	173.2
Linda Johnson Rice	2016-2019	0.1	49.8	*
Antonio Gracias	2010-2021	256.6	99.8	*
Total, six directors		1,086.9	91.3	

Notes: “Potential” realized gains is based on Tesla’s average adjusted closing stock price from January 1, 2024, to August 12, 2024.
* Buss left the board in 2019, Rice in 2019, and Gracias in 2021.

Source: Tesla DEF 14A proxy filings, various years. Tesla Form 4 insider trades. Calculations by Matt Hopkins, Academic-Industry Research Network

Enriching his board of directors with stock-based compensation has been another way in which Musk has secured his strategic control at Tesla, helping him dodge significant oversight, notwithstanding his worst behaviors or most impulsive, and arguably stupid, decisions.

8. Needed: A database on director compensation and its impacts on value-creating investment

The data for both the grant-date value and actual realized gains of CEO pay are available within company proxy statements and, by subscription, can be accessed from Standard & Poor’s ExecuComp database. No equivalent financial reporting or database exists for director pay; AIRnet has developed a methodology for compiling the data needed to calculate director pay. In combination with accurate information on executive pay, the compensation of directors should be of interest to any organization concerned with employment conditions and income distribution in the US economy.

As an example, AIRnet has calculated the director compensation of Albert Gore Jr., who, until his retirement in 2024 at age 75, had been on Apple’s board of directors since 2003. In this position, he was paid $1.7 million in fees and other non-stock-based compensation over the 21 years, but he was able to top that off with $59.5 million in realized gains from the exercise of stock options and the vesting of stock awards. Gore collected $5.4 million in dividends by continuing to hold Apple shares acquired through his stock-based director’s’ compensation and sold some of his Apple shares for $29.5 million in 2017. The shares that Gore still held from his director’s compensation on January 2, 2024, had a market value on that date of $87.1 million.

What makes Gore's financial bonanza as an Apple director especially problematic is that, under his watch, from October 2012 through March 2024, Apple spent *$674 billion* on stock buybacks (90 percent of net income) in addition to paying out $152 billion in dividends (another 20 percent of net income). Apple could have used a fraction of that vast sum wasted on buybacks to invest in, and exercise control over, component technologies, including chips and batteries, that are crucial to the performance of Apple's final products—and are of critical importance to US geopolitical relations. Instead, Apple has outsourced the supply of these components to Asian nations (South Korea, Taiwan, and China) that have become world leaders in chips and batteries. Or perhaps, given his own warnings about climate change, Apple director Gore could have insisted that some of the $674 billion that the company wasted on buybacks could have been allocated to innovative projects seeking to combat global warming.

9. *Realized gains of hedge-fund activists from buying and selling stock*

One reason why a CEO such as Apple's Tim Cook and a director such as Al Gore accede to doing massive stock buybacks is to keep their powerful and lucrative jobs. As laid out by William Lazonick and Jang-Sup Shin in their 2020 book, *Predatory Value Extraction: How the Looting of the Business Corporation Became the US Norm and How Sustainable Prosperity Can Be Restored*, Congressional legislation and changes in Securities and Exchange Commission rules have made it possible for a hedge-fund activist who purchases less than one percent of a company's outstanding shares to effectively threaten incumbent CEOs and their directors with removal from their positions of strategic control.

When, in the summer of 2013, corporate predator Carl Icahn purchased $3.6 billion worth of Apple shares on NASDAQ and then, in the winter of 2016, sold that stake on NASDAQ for a $2-billion gain, shares outstanding on the stock market simply passed from one stock trader to another. Not one cent of the $3.6 billion that Icahn spent on acquiring these outstanding shares went to Apple for investment in productive capabilities or any other purpose.

Yet, apparently succumbing to Icahn's wealth, visibility, hype, and influence, Apple CEO Tim Cook and his board of directors aided the hedge-fund activist in reaping those financial gains by doing $45.0 billion in buybacks in fiscal 2014 and $35.3 billion in fiscal 2015—the first and third largest annual expenditures on buybacks ever executed by any company at that time (Exxon Mobil's buybacks in 2008 were $35.7 billion).[10]

10. And, for the finale, the greatest case of predatory value extraction in corporate history

In the winter of 2016, as Icahn was dumping his Apple shares, Warren Buffett, using cash of Berkshire Hathaway (the conglomerate he controls), started buying Apple shares on NASDAQ until by September 2018 he had shelled out $36.3 billion, giving him 5.1 percent of Apple's shares outstanding and establishing him as one of the company's largest shareholders. 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."[11] Already among the very wealthiest people in the world, Buffett's statement speaks volumes about how the megarich embrace financial maneuvers that make them megaricher.

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[10] 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**, June 6, 2016.

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

After having repurchased $32.9 billion in 2017, Apple granted Buffett his wish, as the company's buybacks were $72.7 billion in 2018, $66.9 billion in 2019, $72.4 billion in 2020, $86.0 billion in 2021, $89.4 billion in 2022, and $77.8 billion in 2023 (fiscal year ended September 30). In fiscal 2024, Apple did a record $94.9 billion in buybacks, for a total of $725.8 billion since October 2012—93 percent of the company's net income over those 12 years.

At the end of the second quarter of 2024, Buffett had secured $107.5 billion from his sales of Apple shares plus dividends of $5.4 billion on his shareholdings.[12] Hence, after recouping the $38.8 billion spent buying Apple shares (including some purchases in 2022 and 2023), Buffett's net realized gain on behalf of Berkshire Hathaway from buying, holding, and selling Apple shares was $74.1 billion. Moreover, he still held 400 million shares, which on June 30, 2024, he could have sold for $84.2 billion—*bringing his realizable net gain to $158.3 billion* (remember that predator Icahn's net gain for simply buying, holding, and selling Apple shares was about $2 billion).

While Buffett was remarkably candid in saying that, with Apple's buybacks, he could increase his percentage of Apple's outstanding shares "without our laying out a dime," he might have added that not one cent of the $38.8 billion that he paid to buy Apple's shares on the market flowed into the company to invest in its productive capabilities or for any other purpose. He expended none of his own time and effort in managing Apple. Buffett's net gain of $158.3 billion on Apple shares on behalf of Berkshire Hathaway over eight years is undoubtedly the greatest case of predatory value extraction in US (and very likely world) corporate history.

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[12] Calculations by Matt Hopkins, Academic-Industry Research Network.