

PROFIT OVER PATIENTS:

AMERICANS ARE PAYING FOR A FINANCIALIZED PHARMACEUTICAL INDUSTRY

ISSUE BRIEF BY **KATY MILANI** | JUNE 2019

Introduction

Today's high-cost, low-quality pharmaceutical industry is not a new phenomenon. Both the renewed public outcry from across the political spectrum and a steady stream of media coverage on price gouging for lifesaving medicines have reenergized policymakers and advocates who are aiming to rein in unaffordable prescription drugs. Against the backdrop of this growing public scrutiny, recent studies expose Big Pharma's unproductive and extractive business model and turn the industry's main talking point—that high-cost medicines are the price society must pay for innovation—on its head. Recent research provides ample evidence that overpriced medicines are not necessary for the industry to find cures and innovate.¹ Rather, high-cost and low-quality medicines are the price patients pay for an industry that prioritizes profit-seeking, which benefits shareholders, CEOs, and senior executives, over public health.

This issue brief is part of a series that shows how the pharmaceutical industry, like all markets, is structured by economic policy choices of the last 50 years—from tax policy and antitrust to patent law and corporate governance.² We explore how these rules enabled the pharmaceutical industry, like many others across our economy, to become increasingly financialized and how this impacts people's access to affordable lifesaving medications.

This brief is organized in two parts. Section 1 examines the financialization of the industry as a whole and draws from leading empirical research to show how and why the pharmaceutical industry is increasingly financialized and how this contributes to high-cost medicines. This section also outlines the effects that financialization has on the pharmaceutical industry, including stagnant innovation—specifically spending on research and development (R&D)—and high drug prices.

¹ This issue brief draws heavily from William Lazonick's research on corporate financialization in the US economy, and more specifically, his research with other scholars on the pharmaceutical industry (see Lazonick et al. 2017 and Tulum and Lazonick 2019).

² This is the third in a series of four issue briefs on the pharmaceutical industry. The first brief, "Profits Over Patients: How the Rules of Our Economy Encourage the Pharmaceutical Industry's Extractive Behavior," broadly examines how today's economic policies—including tax policy, antitrust, and corporate governance—interact with pharma-specific rules to structure today's high-cost pharmaceutical industry (Milani and Duffy 2019). The second brief shows how the industry captured and corrupted public policymaking processes at all levels of government (Margetta Morgan and Duffy 2019). The last brief reimagines the role of the government, so that it can directly invest in and produce affordable medicines (Sterling 2019).



Section 2 analyzes the recent activities of 10 of the leading pharmaceutical companies in the US from 2017 to 2018. We analyze this period to test how corporate behavior and decision-making shifted since the passage of President Donald Trump’s tax law—known as the Tax Cuts and Jobs Act (TCJA)—in December 2017, which was sold as a policy that would stimulate the economy and grow workers’ wages.³ **Our analysis finds that corporate spending on payments to shareholders, including stock buybacks and dividends, increased almost 75 percent from 2017 to 2018, totaling \$115 billion or roughly 167 percent of these companies’ total net income.** This means that the 10 leading pharmaceutical companies combined tapped into cash reserves or borrowed to fund spending to reward shareholders, instead of putting these resources toward innovation or lowering drug costs.

To illustrate the magnitude of Big Pharma’s spending on shareholders, this analysis takes a deeper look at two companies garnering public scrutiny for price gouging popular and life-saving medicines: Eli Lilly (diabetes medications) and AbbVie Inc. (arthritis medication). By comparing their spending on shareholders against the revenue from their blockbuster drugs (i.e., their highest-earning drugs), we expose the magnitude of spending on shareholder payments. We found that:

Eli Lilly’s diabetes medication earned the company over \$9 billion in 2018. The same year, Eli Lilly spent \$6.5 billion on payments to shareholders in the form of buybacks and dividends combined. To put this spending on shareholders payments into perspective, the \$6.5 billion Eli Lilly spent on dividends and buybacks is equivalent to 68 percent of the money that it made on diabetes drugs from patients.

AbbVie’s bestselling drug, Humira, earned the company \$19.9 billion in revenue in 2018. The same year, AbbVie spent \$18.1 billion to reward shareholders in the form of buybacks and dividends combined. To understand the magnitude of AbbVie’s shareholder payments, the \$18.1 billion spent on dividends and buybacks is equivalent to 91 percent of the money AbbVie made on Humira.

While this analysis focuses on two firms, they are not necessarily outliers. Instead, Eli Lilly and AbbVie illustrate the magnitude of Big Pharma’s spending to reward shareholders—which costs the public innovation and affordable medicines.

³ The selection of the 10 firms analyzed in this issue brief builds on a 2018 Americans for Tax Fairness report analysis of Trump’s corporate tax cuts and the pharmaceutical industry: <https://americansfortaxfairness.org/pharma-leaving-workers-patients-behind/>.

Section 1: How Financialization Drives Today’s High-Cost, Low-Quality Pharmaceutical Industry

Like many US corporations today, pharmaceutical companies are increasingly financialized.

How We Define Financialization

The term “financialization” describes two basic features of the 21st century economy:

1. Corporations are earning an increasing proportion of their total profits by engaging in financial activities (i.e., trading, lending, and generally operating like banks) instead of earning profits from traditional business activities, including making and selling products.
2. Corporate profits are increasingly used to increase the short-term value of a corporation’s shares through share repurchase programs, also known as buybacks. Share buybacks benefit a subset of shareholders (more accurately described as sharesellers) who time the selling of their shares when prices are inflated around buyback programs. Typically, CEOs, senior executives, and speculative shareholders time the buying and selling of shares around buybacks to exploit short-term gains.⁴ Corporate spending on buybacks results in fewer corporate funds for productive business activities, such as investing in innovation, R&D, and worker pay.

The analysis in this issue brief largely focuses on the second part of the definition.

The financialization of the pharmaceutical industry is a direct result of rules and policy choices—some formal, some informal—that can be traced back to an economic ideology known as shareholder primacy. What began as an academic theory promoted by free-market economists in the 1970s became a feature of American capitalism, which ultimately revolutionized the way that business leaders and policymakers view the role of corporations. Policymakers, jurists, and the business and financial community gradually adopted the doctrine that “the strategic goal of the company is profits, not products, and the purpose of the profits is to boost the company’s stock price” (Tulum and Lazonick 2018). In other words, the main purpose of corporations, including pharmaceutical companies, was to “maximize shareholder value (Lazonick and O’Sullivan 2000; Lazonick 2016).”

As the ideology of shareholder primacy took hold, a series of policy changes permitted or encouraged corporations to engage in corporate practices and activities that distributed more cash to shareholders and CEOs—ultimately, transforming the business model of American corporations. This included allowing stock buybacks, restructuring executive pay to be tied to stock performance, and incentivizing activist hedge funds to go through shareholders in order

⁴ See Lazonick (2017) and Palladino (2018) for more background on the economics of share repurchases.



to take over companies. For example, stock buybacks were considered market manipulation and functionally impermissible before the Securities and Exchange Commission (SEC) issued the “safe harbor” rule in 1982. Under this rule change, companies were allowed to buy back their own stock only under certain conditions without fear of penalty; corporate share repurchase programs are now the primary way profits are used within many sectors, including the pharmaceutical industry (Palladino 2018).⁵

Under this rule change, companies were allowed to buy back their own stock only under certain conditions without fear of penalty; corporate share repurchase programs are now the primary way profits are used within many sectors, including the pharmaceutical industry.

Buybacks vs. Dividends

Stock buybacks are one form of shareholder payouts that are available to corporations. Buybacks, or open-market share repurchases, occur when companies purchase back their own stock from shareholders on the open market. When this happens, the company reabsorbs that portion of its ownership that was previously distributed among other investors. In turn, this reduces the number of outstanding shares in the market, resulting in an artificial increase in the price per share. The logic is that of supply and demand: When there are fewer shares available to purchase, then an upward demand will increase share prices (Palladino 2018). Buybacks financially benefit a subset of shareholders—i.e., those shareholders who time selling their holdings around buyback announcements when share prices spike. This subset of shareholders are speculative, short-term oriented shareholders, CEOs, and senior executives (Lazonick and Jacobson 2019).

Before buybacks became commonplace, corporations generally distributed profits to shareholders in the form of a cash dividend, or a payment from corporate earnings made to investors in the form of cash. Buybacks and dividends differ in a few key ways: Historically, corporate dividend activity has been much less volatile than buyback activity, which can rise and fall quickly and more closely tracks the stock market and the business cycle (Leary and Michael 2011). This is, in part, because dividends (with the exception of “special dividends”—a one-time distribution of earnings) require a longer-term commitment on the part of corporations than stock buybacks. Compared to buybacks, issuing (regular or special) cash dividends also has a less predictable and less manipulative impact on a company’s stock price—and thus is less prone to gaming by executives or activist investors for their own gain (Moreano 2012).

⁵ See Palladino (2018) for more background on the rule change.



Corporate dividend practices are not without problems, and a wholesale shift from buybacks to dividend payments would not solve the problem of low investment and innovation in today's high-cost pharmaceutical industry. In fact, while buyback spending exploded over recent decades, firms have also increased dividends, albeit at a lower rate (Buttonwood 2015). However, banning buybacks and taxing dividend payments at a higher rate, or at the same rate of labor income, is part of the solution to rein in financialization and shareholder power.

There are several indicators that today's pharmaceutical industry is increasingly financialized, including higher payments to shareholders and CEOs and the rise of hedge funds in the industry.

Financialization in Big Pharma Means More Money to Shareholders and CEOs

The rise of shareholder primacy animated changes to economic policy, such as the buybacks safe harbor rule described above, that encouraged corporate executives to shift their business model, as described by William Lazonick, from “retain and reinvest” to “downsize and distribute.”⁶ This meant that pharmaceutical companies began to spend less on productive investments and more to reward shareholders in the form of higher shareholder payments. Öner Tulum and William Lazonick, who have together conducted the leading research on financialization and the pharmaceutical industry, found that 17 pharmaceutical companies in the Standard and Poor's (S&P) 500 distributed over 100 percent of their combined profits to shareholders in the form of buybacks and dividends from 2008 to 2017 (Tulum and Lazonick 2019). This meant that pharmaceutical companies used a combination of the company's savings—known as retained earnings—or borrowed to fund part of their buyback programs. Their study also found that the same firms spent 12 percent more on payments to shareholders than on R&D (Tulum and Lazonick 2019).

Figure 1 provides a snapshot of shareholder payments (buybacks and dividends) and publicly reported R&D spending by America's leading pharmaceutical companies' in 2018.

⁶ William Lazonick published a wealth of research on this topic more broadly; see Lazonick (1992), Lazonick and O'Sullivan (2000), Lazonick (2009), and Lazonick (2014a).



TOTAL SHAREHOLDER PAYMENTS (BUYBACKS + DIVIDENDS) COMPARED TO REPORTED R&D SPENDING IN 2018

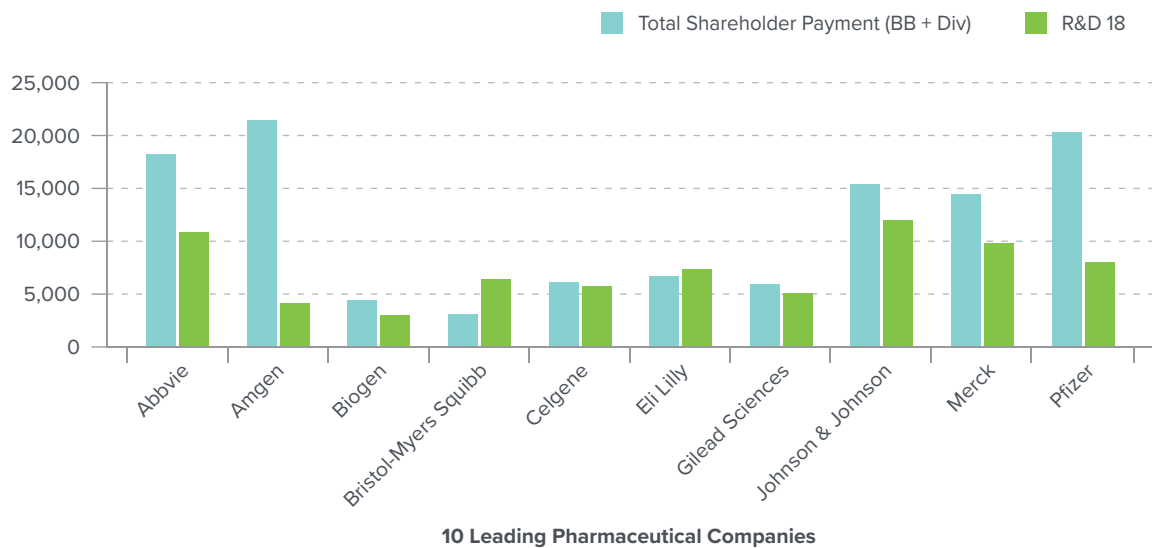


FIGURE 1 Source: The author’s analysis of S&P’s Compustat database for 2018; SEC filings 2018. Note: All dollar values used in calculations are nominal and unadjusted for inflation.

Nearly across the board, these companies spent more to pay to shareholders than they invested into R&D. Some researchers believe that company-reported R&D is deliberately inflated to justify high drug prices; however, even if these figures are inflated, payments to shareholders dwarf the amount spent on R&D in several cases. For example, AbbVie, Amgen, and Pfizer spent more than double the amount on shareholder payments as they did on R&D.

A major driver of increasingly high shareholder payments is the use of stock-based compensation, which rewards senior executives and CEOs for increases in their companies’ stock prices. Studies show that buybacks are more likely when CEO compensation is directly linked to earnings per share (Lazonick 2015; Lin 2016; Almeida, Fos and Kronlund 2016). A series of policy changes in accounting, taxes, and public disclosures contributed to the rise of stock-based CEO pay. Since the 1970s, CEO pay has skyrocketed 937 percent—compared with only 10 percent growth in median worker compensation (Mishel and Schieder 2017). The pharmaceutical industry serves as an extreme case. Returning to Figure 1, the CEOs of those 10 firms earned at least 70 percent or more of their compensation in shares in 2018—earning up to 200 times more than the median worker. Tulum and Lazonick analyzed CEO pay of pharmaceutical executives in the S&P 500 from 2008 to 2017 and found that pharma CEOs receive the majority of their compensation in the form of shares—close to 90 percent in some



cases (Tulum and Lazonick 2019).⁷

As Table 1 shows, the CEOs of the 10 leading US pharmaceutical companies earned over 60 percent of total compensation from shares—with Gilead Sciences’ CEO earning over 80 percent of total compensation from shares. William Lazonick and Matt Hopkins (2016) argue that CEO compensation disclosures (as currently calculated) are misleading and significantly lower than actual compensation. This is because the SEC disclosure is calculated by the “estimated fair value” (before the fact) measure instead of “actual realized gains” (Lazonick and Hopkins 2016). In other words, total CEO pay and median worker ratio in Table 1 are low estimates, but this does not take away from the fact that CEO pay compared to median worker pay is exorbitantly high.⁸ Nor does it take away from the evidence that pharmaceutical executives earning a higher percentage of their pay in stock options are incentivized to allocate resources to buybacks and dividends in order to boost corporate stock yields (Tulum and Lazonick 2019). Research conducted by SEC Commissioner Robert Jackson confirms this, which revealed that corporate executives specifically use buybacks to exploit their insider status and grossly inflate returns on their own stock holdings (Jackson 2018).

BIG PHARMA CEO COMPENSATION AND MEDIAN WORKER PAY RATIO COMPARISON			
Company	Total CEO Pay 2018	% Paid in Shares	CEO Pay to Median Worker Ratio
AbbVie	\$21,271,869	67%	143:1
Amgen	\$16,899,789	71%	127:1
Biogen	\$13,664,373	72%	92:1
Bristol-Myers Squibb	\$18,687,123	68%	169:1
Celgene	\$11,954,737	67%	62:1
Eli Lilly	\$15,845,991	64%	171:1
Gilead Sciences	\$25,961,831	81%	158:1
Johnson & Johnson	\$20,097,572	73%	268:1
Merck	\$17,643,087	71%	215:1
Pfizer	\$19,549,213	71%	244:1

TABLE 1 SEC Reported Estimated Fair Value (EFV) Source: The authors analysis of SEC filing 2019; Definitive Proxy Statement filed in March 2019.

⁷ See Tulum and Lazonick for additional figures on CEO pay from 2008 to 2017: <http://www.theairnet.org/v3/backbone/uploads/2019/02/Tulum-Lazonick.FCINIS-20190215.pdf>.

⁸ See Appendix 2 for the table showing “actual realized gains” for CEO pay for the top 10 pharmaceutical companies.



From 2017 to 2018, the 10 leading pharmaceutical companies increased total payments to shareholders—buybacks and dividends—by almost 75 percent. The average spending on shareholder payments among each of these 10 firms was \$11.5 billion in 2018—totaling \$115 billion. This is compared to \$71.7 billion in total reported R&D spending.

These trends continued, and in some cases worsened, after the passage of the TCJA's corporate tax cuts in 2017. In response to the law, nine drug companies announced buyback programs totaling \$50 billion by February of 2018. Several of the companies also increased dividends payments (Herman 2018). From 2017 to 2018, the 10 leading pharmaceutical companies increased total payments to shareholders—buybacks and dividends—by almost 75 percent (see Table 2). The average spending on shareholder payments among each of these 10 firms was \$11.5 billion in 2018—totaling \$115 billion. This is compared to \$71.7 billion in total reported R&D spending.

Drug companies continue to raise prices for medicines—typically exceeding inflation—but without altering or improving their medications (because the drugs patients need are not easily interchangeable). They are able to do this, in large part, because the industry is unique in that by law they are often permitted to sell the drugs that they produce exclusively, which enables them to increase drug costs (for a deeper exploration of patent law and market exclusivity, see Milani and Duffy 2019). Across the board, drug companies raise prices on blockbuster—and often lifesaving—medicines. For example, AbbVie increased the price of its arthritis drug, Humira, by nearly 10 percent in 2018. According to the Center for Disease Control (CDC), one in four adults have arthritis, a chronic condition (CDC 2019), and Humira is the best-selling prescription drug in the world. Bank analyst David Maris noted that the 2018 price increase meant that patients are paying twice as much for Humira as they were five years ago (Nocera 2018).

Eli Lilly's high-cost diabetes medications is another example of higher costs without drug development. Nearly 10 percent of the US population (30 million people) have diabetes (CDC 2017). Eli Lilly increased the price for one of its leading diabetes medications, Jardiance, by 6 percent in 2018. Furthermore, a Senate investigation found that the company's top-selling insulin drug, Humalog, rose from \$35 to \$234 between 2001 and 2015, a 585 percent increase (Senate Finance Committee 2019).

Across the board, drug companies raise prices on blockbuster—and often lifesaving—medicines.



PHARMACEUTICAL SHAREHOLDER PAYMENTS POST TJCA (IN MILLIONS)										
Firm	2017 Income Tax	2018 Income Tax	% Change Tax Expense 2017 to 2018	2018 Net Income	2018 Stock Buybacks	2018 Total Shareholder Payment (BB + DIV)	2018 Total Shareholder Payment as % of Net Income	Total Shareholder Payment % Change 2017 to 2018	2018 R&D Spending	2018 Price Hikes for Blockbuster Drugs
AbbVie	1,696	-35	-102%	5,687	12,014	18,059	318%	221%	10,753	10%
Amgen	1,500	1,900	27%	8,394	17,920	21,402	255%	213%	4,067	10%
Biogen	1,066	1,007	-6%	4,431	4,355	4,355	98%	218%	2,899	8%
Bristol-Myers Squibb	546	747	37%	4,920	320	2,950	60%	-41%	6,345	6%
Celgene	475	1,165	145%	4,046	6,096	6,096	151%	59%	5,673	4%
Eli Lilly	247	1,102	347%	3,232	4,151	6,523	202%	157%	7,291	6%
Gilead Sciences	3,342	3,198	-4%	5,455	2,900	5,886	108%	59%	5,018	14%
Johnson & Johnson	3,312	4,570	38%	15,297	5,868	15,362	100%	0%	11,901	6%
Merck	4,900	1,500	-69%	6,220	9,091	14,404	232%	57%	9,752	2%
Pfizer	2,489	3,655	47%	11,153	12,198	20,259	182%	58%	8,006	9%
TOTAL				68,835	74,912	115,295	167%	74%	71,705	
AVERAGE				6,883	7,491	11,530			7,171	

TABLE 2 Source: The author's analysis of S&P's Compustat database (2017 to 2018); and SEC filings (2017 to 2018). Note: All dollar values used in calculations are nominal and unadjusted for inflation.

The Role of Hedge Funds in Today's High-Cost, Low-Quality Pharmaceutical Industry

The rise of hedge funds is a key driver of the financialization of the pharmaceutical industry and the increasing emphasis on profit-seeking that rewards shareholders through increasingly high drug prices. Hedge funds, the largest of which have nearly \$150 billion in assets under management, pool finance to buy company shares. Their investments are made with the stated purpose of generating higher returns with aggressive profit-maximization strategies. A particularly attractive destination for hedge funds is the pharmaceutical industry, which was described by the advocacy group Hedge Clippers as the go-to vehicle for hedge fund manipulation and speculation, while undermining innovation (Hedge Clippers 2017). The pharmaceutical industry has been particularly attractive for hedge fund investment because the sector is less sensitive to moves in the economy, as described above, because patients will always need medicines, and there are not many avenues for substitutions because of patent protections.

A common tactic deployed by activist hedge funds is to replace the firm's management with executives committed to increasing shareholder value typically in more immediate or aggressive

ways. From 2013 to 2015, 20 of the 25 largest drug price hikes—those between 400 and 600 percent—came from firms with strong ties to the financial sector through substantial hedge fund ownership (Hedge Clippers 2017). Emails reviewed by a Senate investigation confirmed that these drastic price hikes by hedge-fund related companies were driven by a deliberate strategy to raise returns (Collins and McCaskill 2016). Anticipating the passage of the corporate tax cuts and the wave of buybacks spending by Big Pharma, hedge funds reportedly increased their investment in the industry. Jana Partners, one of the largest US activist investors, increased its stake in biotechnology holdings, and Appaloosa Asset Management tripled its stake in pharmaceutical company Allergan PLC (Randall 2017).

Hedge Fund Influence Fueled EpiPen Price Hikes

“We are a for-profit business, and we have a commitment to shareholders.” This is how Mylan CEO Heather Bresch responded when the company received blowback for charging the \$609 for an EpiPen-price tag for a device that contains about \$1’s worth of the drug epinephrine. The drastic price increase of an EpiPen in recent years embodies the hedge fund-fueled wave seen within the pharmaceutical industry. With more than 90 percent of market share for EpiPens, drugmaker Mylan became a prime target for hedge funds (Zaitchik 2018). After half of a dozen such funds bought shares of the company, Mylan began a price-spiking spree that drove the cost of a box of two EpiPens to more than \$600 (Zaitchik 2018). In May of 2017, the US government claimed that Mylan had overcharged Medicaid for EpiPens to the tune of \$1.27 billion (Duhigg 2017). In response to public outrage over price gouging, Mylan CEO Robert Coury famously gave two middle fingers at a board meeting, cursing off critics and parents of allergy sufferers (Zaitchik 2018). This example illustrates how Americans are paying a high price for outsized hedge fund influence and corporate America’s choice to put shareholder interests above all else, especially when it comes to health care.

The Effects of Financialization in the Pharmaceutical Industry: Flat Innovation and Increasingly Expensive Medicines

Despite the growing revenue and record profits, R&D spending across the pharmaceutical industry is relatively stagnant (and is actually falling by some measures). From 2008 to 2014, industry revenue increased by 45 percent, or \$241 billion, while spending on R&D increased 8.5 percent or \$7 billion in that same period (GAO 2017). As described in the first issue brief of this series, R&D expenditures are actually falling because more firms outsource R&D to third parties (Milani and Duffy 2019). The same GAO study found that purchased R&D increased from \$20.5 billion to \$31.2 billion while in-house R&D fell from \$61.7 to \$58.2 billion during the same time period (GAO 2017). Researchers argue that purchasing R&D from a third party can be used to shut out competition in the market (i.e., a “killer acquisition”) (Cunningham, Ederer, and Ma 2018). Purchased R&D can also reflect the acquirer’s goal to exploit the patent; furthermore,



there is evidence that R&D spending is not a good measure of productivity when a firm is financialized or, in other words, uses a high percent of corporate resources toward payments to shareholders (Hopkins and Lazonick (2014).

Despite the industry’s claim, private industry is not the only investor in innovative breakthrough in the pharmaceutical industry. The government plays a major role as an investor in medical breakthroughs and drug R&D spending. Federal funding from the National Institute of Health (NIH) is between 25 to 30 percent of total R&D spending per year—one study found that all 210 drugs approved between 2010 and 2016 were rooted, in whole or in part, on NIH-funded research (Cleary et al. 2017). The pharma industry argues that its role is to “discover and develop medicines that enable patients to live longer, healthier[,] and more productive lives” (PhRMA 2018). Contrary to this claim, however, the industry directs a higher percentage of its profits to enriching shareholders and CEOs than it puts towards productive uses, such as R&D and capital investments or reducing sky-high drug prices.

Section 2: The Opportunity Cost of America’s Financialized Pharmaceutical Industry

These trends in the pharmaceutical industry have real effects on Americans’ health and their lives. Building from Öner Tulum’s and William Lazonick industry-wide analysis discussed earlier, we analyze the activities of the 10 leading pharmaceutical companies from 2017 to 2018—the time since the passage of the TCJA. We found that total spending on shareholder payments—buybacks and dividends—by these 10 firms increased by almost 75 percent, totaling nearly \$115 billion (or nearly 167 percent of total net income) in 2018 (see Table 2). This number outpaced firm-reported spending on R&D, which totaled almost \$71.7 billion in 2018 for all 10 companies (also see Table 2). These are corporate resources that could have been put toward productive uses, including lowering the inflated costs of life-saving drugs.

We found that total spending on shareholder payments—buybacks and dividends—by these 10 firms increased by almost 75 percent, totaling nearly \$115 billion (or nearly 167 percent of total net income) in 2018. This number outpaced firm-reported spending on R&D, which totaled almost \$71.7 billion in 2018 for all 10 companies.

Seven out of the 10 Big Pharma companies featured in this analysis spent over 100 percent of their net income on shareholder payments, including buybacks and dividends, which includes AbbVie (318 percent), Amgen (255 percent), Celgene (151 percent), Eli Lilly (202 percent),



Gilead (108 percent), Merck (232 percent), and Pfizer (182 percent). This means that these seven firms used some combination of cash reserves or borrowed to make these payouts to shareholders.

To provide a reference point to conceptualize the extent of the pharmaceutical industry's spending on shareholders, the remainder of this section compares the spending on buybacks and dividends of two of the companies featured in Table 1—Eli Lilly and AbbVie—to the total reported revenue these firms brought in from their top-revenue-generating drugs in 2018.

Eli Lilly's Diabetes Medications

More than 100 million adults in the US live with diabetes or prediabetes, and the rate of new diagnoses remains steady (CDC 2017). Prevalence of this disease is highest among people of color—15 percent for Native Americans/Alaska Natives, 13 percent for Black Americans, and 12 percent for Latinx Americans (CDC 2017). Diabetes was the seventh-leading cause of death in the US in 2015, if not managed—with roughly 30 million Americans relying on insulin to manage their disease.

Eli Lilly is one of the leading manufacturers of insulin, and it has increased the price of insulin year over year. The company's top selling insulin drug, Humalog, rose from \$35 to \$234 between 2001 and 2015, a 585 percent increase (Senate Finance Committee 2019). **Eli Lilly's diabetes medication earned the company over \$9 billion⁹ in 2018. The same year, Eli Lilly spent \$6.5 billion on payments to shareholders in the form of buybacks and dividends combined. To put this spending on shareholder payments into perspective, the \$6.5 billion Eli Lilly spent on dividends and buybacks is equivalent to 68 percent of the money that it made on diabetes drugs from patients.**

AbbVie's Humira

An estimated 23 percent (54.4 million) of adults had doctor-diagnosed arthritis, with significantly higher prevalence in women (23.5 percent) than in men (18.1 percent) (CDC 2018). As the US population continues to age, the prevalence of arthritis is expected to increase in the coming decades. Humira, the leading medication for arthritis, is the top-selling drug in the world (Nocera 2019). Humira is AbbVie's most lucrative medicine, accounting for 61 percent of the company's total revenue. The price for this drug increased nearly 10 percent in 2018 (DiGrande 2019). **AbbVie's bestselling drug, Humira, earned the company \$19.9 billion in revenue in 2018. The same year, AbbVie spent \$18.1 billion to reward shareholders in the**

⁹ The \$9 billion in revenue is the total revenue from the following diabetes medications: Trulicity, Humalog, Humulin, Basaglar, Jardiance, and Trajenta as stated in Item 10 (Management Discussion and Analysis) in Eli Lilly's 2019 10k filing: <https://investor.lilly.com/static-files/a105f21e-a1ca-4f09-82ce-298ae45fb1dc>.

form of buybacks and dividends combined. To understand the magnitude of AbbVie's shareholder payments, the \$18.1 billion spent on dividends and buybacks is equivalent to 91 percent of the money AbbVie made on Humira.

Conclusion

High-cost medicines are not the price we must pay for innovation and higher quality. The pharmaceutical industry's extractive business model is failing too many Americans, and the price for some patients can be fatal. It does not have to be this way. The outcomes of a financialized industry—high drug prices, insufficient investment, skyrocketing CEO pay, and more—are not inevitable consequences of markets but the result of conscious policy choices by legislators, regulators, and institutions that guide corporate decision-making. Part of the formula to start to achieve the collective goal of affordable medicines and an innovative industry that serves the public good through better health outcomes is to rein in Big Pharma's extractive business model.



Appendix 1: TABLE 1 Big Pharma CEO Compensation and Median Worker Pay Ratio Comparison

BIG PHARMA CEO COMPENSATION AND MEDIAN WORKER PAY RATIO COMPARISON *SEC REPORTED ESTIMATED FAIR VALUE (EFV) VS. ACTUAL REALIZED GAINS (ARG)						
Company	EFV Total CEO Pay 2018	EFV % Paid in Shares	ARG Total CEO pay 2018	ARG % Paid in Shares	EFV CEO Pay to Median Worker Ratio	ARG CEO Pay to Median Worker Ratio
Abbvie	\$21,271,869	67%	\$28,542,246	75%	143:1	192:1
Amgen	\$16,899,789	71%	\$18,018,506	66%	127:1	137:1
Biogen	\$13,664,373	72%	\$10,116,898	50%	92:1	59:1
Bristol-Myers Squibb	\$18,687,123	68%	\$22,014,840	71%	169:1	196:1
Celgene	\$11,954,737	67%	\$5,772,396	28%	62:1	Not reported
Eli Lilly	\$15,845,991	64%	\$14,171,208	53%	171:1	155:1
Gilead Sciences	\$25,961,831	81%	\$21,781,701	77%	158:1	133:1
Johnson & Johnson	\$20,097,572	73%	\$46,428,340	88%	268:1	619:1
Merck	\$17,643,087	71%	\$48,815,014	84%	215:1	531:1
Pfizer	\$19,549,213	71%	\$47,042,550	88%	244:1	588:1

TABLE 1 Source: Analysis of SEC 2019 filing; Definitive Proxy Statement filed in March 2019. Total Pay is Salary, Bonus, Non-equity (Incentive Cash) Bonus, Change in value of Pension, Other Pay, Realized Gains from Stock Options Exercised, Realized Gains from Stock Awards that Vested.



REFERENCES

- Almeida, Heitor, Vyacheslav Fos, and Mathias Kronlunch. 2016. "The Real Effects of Share Repurchases." *Journal of Financial Economics* 119, no. 1 (January): 168–185. <https://www.sciencedirect.com/science/article/pii/S0304405X15001476?via%3Dihub>.
- Appell, Douglas. 2012. "Institutional Investors Digging Dividends." *Pensions & Investments*, January 23, 2012. <http://www.pionline.com/article/20120123/PRINT/301239981/institutional-investors-digging-dividends>.
- Belluz, Julia. 2019. "The Absurdly High Cost of Insulin, Explained." *Vox*, April 3, 2019. <https://www.vox.com/2019/4/3/18293950/why-is-insulin-so-expensive>.
- Buttonwood, 2015. "The Share Buyback Mirage." *The Economist*, October 6, 2015. <https://www.economist.com/buttonwoods-notebook/2015/10/06/the-share-buyback-mirage>.
- Center for Disease Control. 2017. National Diabetes Statistics Report. <https://www.cdc.gov/diabetes/data/statistics/statistics-report.html>
- Center for Disease Control. 2018. National Statistics. https://www.cdc.gov/arthritis/data_statistics/national-statistics.html
- Cleary, Ekaterina Galkina, Jennifer Beierlein, Navleen Surjit Khanuja, Laura McNamee, and Fred Ledley. 2017. "Contribution of NIH Funding to New Drug Approvals 2010–2016." *Proceedings of the National Academy of Sciences of the United States of America*. December 27, 2017. <https://www.pnas.org/content/115/10/2329>.
- Collins, Susan, and Claire McCaskill. 2016. "Sudden Price Spikes in Off-Patent Prescription Drugs: The Monopoly Business Model that Harms Patients, Taxpayers, and the US Health Care System." Special Committee on Aging, United States Senate Report. <https://www.congress.gov/114/crpt/srpt429/CRPT-114srpt429.pdf>
- Cunningham, Colleen, Florian Ederer, and Song Ma. 2018. "Killer Acquisitions." Available at SSRN 3241707. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=3241707
- DiGrande, Samantha. 2019. "Pharma Companies Raise Prices on More than 250 Drugs in 2019." Center for Biosimilars. January 3, 2019. <https://www.centerforbiosimilars.com/news/pharma-companies-raise-prices-on-more-than-250-drugs-in-2019>.
- Duhigg, Charles. 2017. "Outcry Over EpiPen Prices Hasn't Made Them Lower." *New York Times*, June 4, 2017. <https://www.nytimes.com/2017/06/04/business/angry-about-epipen-prices-executive-dont-care-much.html>.
- GAO. 2017. "Drug Industry: Profits, Research and Development Spending, and Merger and Acquisition Deals." Government Accountability Office, Report to Congressional Requesters. November 2017. <https://www.gao.gov/assets/690/688472.pdf>.
- Hedge Clippers. 2017. "Hedge Papers No. 51 Trump's Wealthcare Plan: Helping Hedge Funds Profit from Soaring Drug Prices." *Hedge Clippers*, October 23, 2017. <http://hedgeclippers.org/wp-content/uploads/2017/10/Hedge-Papers-No.-51-Pharma-Hedge-Funds1.pdf>.
- Herman, Bob. 2018. "Pharma's \$50 Billion Tax Windfall for Investors." *Axios*, February 22, 2018. <https://www.axios.com/pharma-share-buyback-tax-reform-40a30b93-6149-4c67-bd65cd05ee814215.html>.
- Holmberg, Susan and Michael Umbrecht. 2014. "Understanding the CEO Pay Debate: A Primer on America's Ongoing C-Suite Conversation." New York: The Roosevelt Institute. <http://rooseveltinstitute.org/wp-content/uploads/2015/10/244163008-Understanding-the-CEO-Pay-Debate-A-Primer-on-America-s-Ongoing-C-Suite-Conversation.pdf>



- Hopkins, Matt and William Lazonick. 2014. "Who Invests in the High-Tech Knowledge Based?" Working Paper no. 14. New York, NY: Institute for New Economic Thinking. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2638091
- Hopkins, Matt and William Lazonick. 2016. "The Mismeasure of Mammon: Uses and Abuses of Executive Pay Data." Working Paper no. 49. New York, NY: Institute for New Economic Thinking. https://www.ineteconomics.org/uploads/papers/WP_49-Hopkins-Lazonick-Updated.pdf
- Jackson, Robert. 2018. "Stock Buybacks and Corporate Cashouts." Speech by Commissioner Robert Jackson at the Center for American Progress. Securities and Exchange Commission. June 11, 2018. <https://www.sec.gov/news/speech/speech-jackson-061118>.
- Lazonick, William. 2009. "The New Economy Business Model and the Crisis of US Capitalism." *Capitalism and Society* 4, no.2. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=2209322
- Lazonick, William. 2014. "Profits Without Prosperity." *Harvard Business Review*. September 2014. <https://hbr.org/2014/09/profits-without-prosperity>
- Lazonick, William. 2014b. "Taking Stock: Why Executive Pay Results in an Unstable and Inequitable Economy." New York: The Roosevelt Institute. <http://rooseveltinstitute.org/taking-stock-why-executive-pay-results-unstable-and-inequitable-economy/>
- Lazonick, William. 2016. "Innovative Enterprise or Sweatshop Economics? In Search of Foundations of Economic Analysis." *Challenge*, 59(2), pp.65-114. <https://www.tandfonline.com/doi/abs/10.1080/05775132.2016.1147297>
- Lazonick, William, and Mary O'Sullivan. 2000. "Maximizing Shareholder Value: A New Ideology for Corporate Governance." *Economy and Society* 29, no. 1 (February): 13-35. <https://www.tandfonline.com/doi/abs/10.1080/030851400360541>
- Lazonick, William, and Öner Tulum. 2019. "How High Drug Prices Inflate C.E.O.s' Pay." *New York Times*, February 26, 2019. <https://www.nytimes.com/2019/02/26/opinion/drug-pricing-senate-hearing.html>
- Lazonick, William and Matt Hopkins. 2016. "If the SEC Measured CEO Pay Packages Properly, They Would Look Even More Outrageous." *Harvard Business Review*, December 22, 2016. <https://hbr.org/2016/12/if-the-sec-measured-ceo-pay-packages-properly-they-would-look-even-more-outrageous>
- Lazonick, William, Matt Hopkins, Ken Jacobson, Mustafa Erdem Sakinç, and Öner Tulum. 2017. "US Pharma's Financialized Business Model." Working Paper no. 60. New York, NY: Institute for New Economic Thinking. https://www.ineteconomics.org/uploads/papers/WP_60-Lazonick-et-al-US-Pharma-Business-Model.pdf
- Lazonick, William and Ken Jacobson. 2019. "How Stock Buybacks Undermine Sustainable Prosperity." *The American Prospect*, March 13, 2019. <https://prospect.org/article/how-stock-buybacks-undermine-sustainable-prosperity>
- Lin, Ken-Hou. 2016. "The Rise of Finance and Firm Employment Dynamics." *Organization Science* 27, no. 4 (July): 972–988. <http://doi.org/10.1287/orsc.2016.1073>.
- Leary, Mark T., and Roni Michaely. 2011. "Determinants of Dividend Smoothing: Empirical Evidence." *The Review of Financial Studies* 24, no. 10 (October): 3197-3249. <https://doi.org/10.1093/rfs/hhr072>
- Milani, Katy, and Devin Duffy. 2019. "Profit Over Patients: How the Rules of our Economy Encourage the Pharmaceutical Industry's Extractive Behavior." New York: The Roosevelt Institute. http://rooseveltinstitute.org/wp-content/uploads/2019/02/RI_Profit-Over-Patients_brief_021319-1.pdf
- Moreano, Giovanni. 2012. "Do Special Dividends Boost Stock Price?" *CNBC*, November 27, 2012. <https://www.cnbc.com/id/49979295>.



- Nocera, Joe. 2019. "How Allergan Continues to Make Drug Prices Insane." *Bloomberg*, January 9, 2018. <https://www.bloomberg.com/opinion/articles/2018-01-09/how-allergan-continues-to-make-drug-prices-insane>
- Mishel, Lawrence, and Jessica Schieder. 2017. "CEO Pay Remains High Relative to the Pay of Typical Workers and High-Wage Earners." Washington, DC: Economic Policy Institute. <https://www.epi.org/publication/ceo-pay-remains-high-relative-to-the-pay-of-typical-workers-and-high-wage-earners/>.
- Palladino, Lenore. 2018. "Stock Buybacks: Driving a High-Profit, Low-Wage Economy." New York, NY: The Roosevelt Institute. <http://rooseveltinstitute.org/wp-content/uploads/2018/03/Stock-buybacks.pdf>.
- PhRMA. 2018. "Who We Are." *PhRMA*. <https://www.phrma.org/about/our-mission>.
- Randall, David. 2017. "Bets on Financials, Pharma Power US Hedge Funds' Strong Start to Year." *Reuters*, February 14, 2017. <https://www.reuters.com/article/us-investment-funds-trump/bets-on-financials-pharma-power-u-s-hedge-funds-strong-start-to-year-idUSKBN15T301>.
- Stringer, Scott, Thomas DiNapoli, Anne Sheehan, and Margriet Stavast-Groothuis. 2017. Letter to Mylan NV Shareholders. May 30, 2017, https://www.sec.gov/Archives/edgar/data/1517047/000121465917003708/pdf_d530170px14a6n.pdf.
- Tulum, Öner, and William Lazonick. 2019. "Financialized Corporations in a National Innovation System: The US Pharmaceutical Industry." *International Journal of Political Economy* 47, nos. 3-4 (April): 281-316. <https://doi.org/10.1080/08911916.2018.1549842>.
- US Senate Committee on Finance. 2019. "Grassley, Wyden Launch Bipartisan Investigation into Insulin Prices." United States Senate Press Release. <https://www.finance.senate.gov/chairmans-news/grassley-wyden-launch-bipartisan-investigation-into-insulin-prices>.
- Zaitchik, Alexander. 2018. "How Big Pharma Was Captured by the One Percent." *The New Republic*, June 28, 2018. <https://newrepublic.com/article/149438/big-pharma-captured-one-percent>.



ABOUT THE AUTHOR

Katy Milani is a fellow at the Roosevelt Institute, where she works on a range of economic and regulatory policy issues with a focus on the financial sector and housing. Milani is a coauthor of *Untamed: How to Check Corporate, Financial, and Monopoly Power*. Prior to joining Roosevelt, she worked for New York City's Office of Management and Budget and in Washington as legislative fellow in the US Senate. She holds an MA in regulation from the London School of Economics and BA from the University of Colorado.

ACKNOWLEDGMENTS

The author wishes to thank Steph Sterling for her thought partnership and strategic guidance on this project, plus special thanks to Matt Hopkins, Mike Konczal, William Lazonick, Stephen Lerner, Lenore Palladino, and William Rice for their comments and insight. Roosevelt staff Jess Forden, Debarati Ghosh, Kristina Karlsson, Victoria Streker, and Ariela Weinberger all contributed to the project; this issue brief was edited by Kendra Bozarth.

This issue brief was made possible with the generous support of the Open Society Foundations. The contents of this publication are solely the responsibility of the author.

ABOUT THE ROOSEVELT INSTITUTE

Until the rules work for every American, they're not working. The Roosevelt Institute asks: What does a better society look like? Armed with a bold vision for the future, we push the economic and social debate forward. We believe that those at the top hold too much power and wealth, and that our economy will be stronger when that changes. Ultimately, we want our work to move the country toward a new economic and political system: one built by many for the good of all.

It will take all of us to rewrite the rules. From emerging leaders to Nobel laureate economists, we've built a network of thousands. At Roosevelt, we make influencers more thoughtful and thinkers more influential. We also celebrate—and are inspired by—those whose work embodies the values of both Franklin and Eleanor Roosevelt and carries their vision forward today.