

PROFIT OVER PATIENTS:

HOW THE RULES OF OUR ECONOMY ENCOURAGE THE PHARMACEUTICAL INDUSTRY'S EXTRACTIVE BEHAVIOR

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Introduction

The pharmaceutical industry isn't working for most Americans. Over 80 percent of Americans across the political spectrum believe that lowering drug costs should be a "top priority" for lawmakers (Roubein 2019), and believe prescription drug costs are "unreasonable" (Kirzinger et al. 2018). A *Washington Post* analysis noted that rising drug prices were fueling outrage (Langreth 2018), a sentiment that elected officials are seizing on by calling the industry to question in Congressional hearings and introducing legislation aiming to lower drug prices (Weixel 2019). President Trump vowed to take on prescription drug prices in his State of the Union speech, and accused drugmakers of "getting away with murder" when he was running for office (Karlin-Smith 2017; Rovner 2019). This growing public and political scrutiny and outrage toward drug corporations present a rare opportunity to question the industry's ways of running business and reform the practices that are driving high profits and high drug prices at the expense of affordable and necessary medicines.

Contrary to the industry's claims, unaffordable prescription drugs are not the price we must pay for the industry to find cures and innovate affordable medicines; rather, it is the price tag we pay for an industry that values profits over patients and public health. This profit-seeking is built in part by the rules that govern the industry and, more broadly, our economy that creates wealth for shareholders and executives at the expense of patients. Today's pharmaceutical industry arises from the rules that govern it; the complex structure of laws, regulations, and institutions that shape corporate decision-making and drive runaway profits. As the Roosevelt Institute first described in *Rewriting the Rules of the American Economy* (Stiglitz et al. 2015), these rules inform incentives and define the balance of power among public and private interests, workers and owners, consumers and industry, and other stakeholders. This issue brief, the first in a series, will explore the rules that govern the pharmaceutical industry and how these rules, as they are currently written, create drug companies that value profits more than people. Life and health should not be for sale but equally available to all, and policymakers have tools to rewrite the rules of our economy to ensure that drug companies put public health before profits.



Section 1 of this issue brief discusses how the industry functions today, leading to high drug prices, low investment, and lagging health outcomes—all of which challenge the industry's claims that high drug prices are necessary to fund innovation and investments in finding cures.

Section 2 discusses the rules that shape the pharmaceutical industry in three broad categories: 1) the rise of corporate financialization and the growing influence of the financial sector; 2) competition policy and changing power dynamics within the pharmaceutical industry; and 3) tax policy changes and the intersection of tax law and industry behavior.

Section 3 analyzes how these rules have created today's high-price, low-investment drug industry and provides examples of their detrimental effects. This issue brief specifically, and the entire series more broadly, aims to connect the dots between the problems within today's drug corporations and the economic rules and policies that structure and shape it, putting profits over care for people.

The pharmaceutical industry is unique compared to other industries. The fact that it produces potentially life-saving products, is substantially regulated through the drug approval process, and that new drugs are often developed with substantial government investments that are rarely recognized in subsequent price-setting, among others, are economically, and morally, relevant to understand the industry. However, the purpose of this analysis is to show how the rules and practices that structure today's economy across industries—corporate financialization, shareholder primacy, market power, tax law—can interact with unique pharmaceutical industry dynamics to reinforce and, at times, drive extractive practices and behavior that put excess profits for shareholders and CEOs ahead of affordable medicines and better health outcomes for the rest of us.

Section 1: Today's Pharmaceutical Industry

The pharmaceutical industry in the United States today is failing most Americans. The industry is earning record profits, both historically and relatively, at the same time that prices are increasing for patients and other payors within the health care industry, including the federal government. Evidence fails to support the industry's claim that high prices are necessary for increased investments in research and development (R&D). Moreover, to the extent that the industry is investing in research, such spending tends to support the advancement of profitable drugs rather than investments in medicines considered to be less profitable. Taken together, the evidence suggests that today's high-cost, high-profit pharmaceutical industry is structured to prioritize profits over the health care system, our economy, and our society.

When it comes to pharmaceutical spending, the U.S. is exceptional; though the nation comprises less than five percent of the world's population (Census Bureau 2018), U.S. spending on



prescription drugs represents between 30 and 40 percent of the global market (Ellis 2016). Americans are taking more prescription pills than ever before (Carr 2017), and are paying skyrocketing prices. American patients pay up to six times more for brand-name prescription drugs than their global counterparts (Kounang 2015), and total drug costs in the U.S. spiked by 6.3 percent in 2016, approximately triple the increase of other goods and services (Gill 2018). Out-of-pocket costs, moreover, are expected to balloon to \$67 billion in 2025 (Gill 2018).

Taken together, the evidence suggests that today’s high-cost, high-profit pharmaceutical industry is structured to extract value from our health care system, our economy, and our society, rather than create it.

Despite this exceptional spending, America lags behind other developed nations in terms of health outcomes. In 2015, the U.S. spent more per capita on pharmaceuticals than any other nation (Sarnak et al. 2017), but American life expectancy ranked 34th globally (World Health Organization 2016). In 2016, life expectancy in the U.S. declined for the second year in a row, and preliminary estimates suggest that 2017 saw a third consecutive drop—a trend not seen since the 1910s (Stobbe 2018).

While increased spending on drugs by patients may not be boosting health outcomes, it has done wonders for drugmakers’ bottom lines. Between 2006 and 2015, pharmaceutical and biotechnology sales revenue shot up from \$534 billion to \$775 billion (GAO 2017). During that time, 67 percent of drug corporations increased their annual profits, with some corporations enjoying 20 percent higher profit margins in a single year (GAO 2017). Drugmakers’ profits throughout those 10 years handily outpaced those of nearly all other industries, including soft drinks, cable television, and oil and gas (Damodaran 2018).

These high costs have real-world effects. Increasingly unaffordable drug prices present difficult choices for millions of Americans, who often cut back on basic necessities and shape life decisions around the financial burden. People whose drug costs have increased are more likely to stop taking prescribed medications; skip filling prescriptions; take less than prescribed dosages; split pills or share prescriptions with others; and take expired medications (Skinner 2016). Higher drug costs lead people to spend less not just on discretionary items, but on essentials like groceries, with many patients taking second jobs or postponing retirement just to get by (Skinner 2016).

Hospitals and health care providers also face difficult decisions as drug prices rise. According to a University of Chicago survey, “over 90 percent of responding hospitals reported that recent inpatient drug price increases had a moderate or severe effect on their ability to manage the



overall cost of patient care, with one-third of the respondents indicating that the impact was severe” (NORC 2016). As one hospital noted in that survey, 2015 price increases “for just four common drugs, which ranged between 479 and 1,261 percent, cost the same amount as the salaries of 55 full-time nurses” (NORC 2016). While the pharmaceutical industry enjoys record profits, these rising drug prices are passed down to hospital patients in both direct and indirect ways.

Surging drug prices also weigh heavily on government budgets, with the U.S. government paying about 43 percent of retail prescription drug costs (Olson and Sheiner 2017). Driven by increases in specialty drug prices, Medicaid spending on outpatient drugs shot up from \$22.4 billion in 2013 to \$31.7 billion in 2015, a concern for state Medicaid programs and for states’ budgets. (Young and Garfield 2018). These costs are not just borne by patients who need a specific drug; instead, they burden local governments and programs in ways that might prove significant to broader social welfare.

Despite ample revenue and profits, however, R&D spending has been relatively stagnant. While industry revenue increased by 45 percent, or \$241 billion from 2008 to 2014, industry spending on R&D increased just 8.5 percent in that same period, from \$82 billion to \$89 billion (GAO 2017). By some measures, R&D expenditures are actually falling, as more firms are outsourcing R&D to third parties. In that seven-year period, 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 (GAO 2017). Finally, the industry can only claim partial credit for recent medical breakthroughs. The federal funding provided by taxpayers contributes around 25 to 30 percent of all R&D spending per year, and a Bentley College study found that all 210 drugs approved between 2010 and 2016 were rooted, in whole or in part, on National Institute of Health (NIH)-funded research (Cleary et al. 2017).

Many pharmaceutical firms spend more on activities intended to increase profits and stock price than they do on the development of needed drugs. Of the 10 largest pharmaceutical companies, only one spent more on research and development than it did on sales and marketing in 2013. Johnson & Johnson, the world’s largest drug corporation, spent more than double on sales and marketing (\$17.5 billion) as they did on R&D (8.2 billion), according to research firm GlobalData (Anderson 2014). Spending on stock buybacks outpacing spending on R&D was also an industry norm (Lazonick et al. 2017).

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Meanwhile, the investments that drugmakers do make in research and development often do not meet the greatest health care needs of the many, instead investing in cures and remedies for diseases that affect those who can pay the most. Researchers describe this phenomenon with the 90-10 rule: 90 percent of R&D focuses on diseases affecting 10 percent of the world’s population (Stiglitz and Jayadev 2010). This misalignment often results in drugmakers not investing in R&D to treat diseases we need, such as the development of new antibiotics (Mazzucato et al. 2018), or for diseases that affect lower-income individuals, who are unable to pay for the fixed costs of drug production (Stiglitz and Jayadev 2010). This failure amplifies pre-existing inequalities in health outcomes, disproportionately harms people of color and women, and disincentivizes development for diseases that disproportionately impact people in the developing world. These outcomes are not inevitable; our pharmaceutical industry does not have to be profit-seeking at the expense of people’s health. Instead, they stem, in part, from deliberate choices of policymakers.

Section 2: The Rules that Have Structured Today’s Pharmaceutical Industry

As the Roosevelt Institute laid out in *Rewriting the Rules* (Stiglitz et al. 2015) and subsequent reports¹, our markets—be they for medicines, loans, cars, or anything else—are dictated by laws, norms, and other societal “rules” that regulate and structure our economy. The seemingly confined and technocratic worlds of tax and antitrust policy shape the distribution of wealth and power throughout the economy, structuring corporate behavior and influencing how consumers make everyday decisions about how and where to spend their money. In the section below, we discuss the rules that shape the pharmaceutical industry in three broad categories: 1) the rise of corporate financialization and the growing influence of the financial sector; 2) competition policy and changing power dynamics within the pharmaceutical industry; and 3) the rise of extractive tax policies, which incentivize the industry to behave in increasingly unproductive ways.

Rise in Corporate Financialization and Its Role in the Pharmaceutical Industry

The ways in which corporations earn and spend their profits have changed in America. Corporations have become increasingly *financialized*, meaning they are earning an increasing share of their profits from financial activity rather than from normal business activity, and paying out their high profits to shareholders rather than investing in future returns.

¹ Such as *Untamed: How to Check Corporate, Financial, and Monopoly Power* (Abernathy et al. 2016); *Rewrite the Racial Rules: Building an Inclusive American Economy* (Flynn et al. 2018); and *Powerless: How Lax Antitrust and Concentrated Market Power Rig the Economy Against American Workers, Consumers, and Communities* (Steinbaum et al. 2018).



It is not by coincidence that corporations across different industries have become increasingly tangled in financial markets and interested primarily in short-term profit-seeking. Financialization is the result of a set of rules—some formal, some informal—that have created these conditions. Many of the changes to rules that result in increased corporate financialization can be traced back to the ideology of *shareholder primacy*. Policymakers, jurists, and corporate governance experts gradually adopted the doctrine of shareholder primacy, or the idea that businesses should function exclusively to profit corporate stakeholders—“maximizing shareholder value.” What began as an academic theory from free market economists in the 1970s became a defining feature of American capitalism, revolutionizing the way that business leaders and regulators alike came to understand the nature of their work. The result was a series of changes to the laws and regulations that permitted corporations to engage in stock buybacks, encouraged executive pay to be tied to stock performance, and incentivized activist hedge funds to go through shareholders to takeover companies.

Corporate financialization and shareholder primacy have affected every industry in America, and the pharmaceutical industry is no exception. Ostensibly, the industry exists to—in the words of PhRMA—“discover and develop medicines that enable patients to live longer, healthier[,] and more productive lives” (PhRMA 2018). But the principle of shareholder value maximization is essentially incompatible with this stated goal. When tasked with making decisions on how to spend profits, executives repeatedly prioritize shareholders payouts over drug research or affordable medicines.

Between 2006 and 2015, the 18 largest American pharmaceutical companies spent \$516 billion on buybacks and dividends, more than the \$465 billion spent on research and development. During that period, shareholder payouts represented roughly 100 percent of profits (Lazonick et al. 2017). These trends worsened after the passage of the Tax Cuts and Jobs Act (TCJA), which President Trump signed into law in December of 2017. In response to the tax cuts, nine drug companies announced buyback programs totaling \$50 billion by February of 2018, several of which also increased dividends payouts (Herman 2018). Prioritizing spending on buybacks directly detracts from expenditures related to patient health, like reducing drug prices or new investments in R&D.

The rise of hedge funds is a key part of the financialization of the pharmaceutical industry and has contributed to the increasing emphasis on profit-seeking to reward shareholders through practices like price-gouging. Hedge funds, the largest of which have over \$1 billion in assets, pool capital to invest with the express purpose of generating higher returns, often by investing in corporations with aggressive profit-maximization strategies. The last several decades saw an explosion of growth in the hedge fund industry, as assets under the control of hedge funds—the majority of which are based in the U.S.—grew from \$118 billion in 1997 to over \$3.6 trillion in 2018 (Dayen 2016; Katz 2018). 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 speculation” (Hedge Clippers 2017). A common tactic deployed by activist hedge funds after gaining control of a company is to replace their management with executives who will commit to increasing shareholder value in more immediate or aggressive ways.

Rise of Market Power and the Role of Competition Policy and Monopolies in the Pharmaceutical Industry

Today, markets in the U.S. are more concentrated and less competitive than at any point since the Gilded Age (Abernathy et al. 2016, 18). Without competitive markets, powerful corporations can earn disproportionate shares of profit and exert *market power* over competitors. Market power refers to a company’s ability to profit by extracting value from other market participants, rather than by creating shared value (Steinbaum et al. 2018). When a pharmaceutical company, for instance, controls nearly all market share of an important prescription drug, they can raise prices, knowing patients have no or limited access to alternatives. The drug corporation’s profits from price gouging extract—not create—value.

The rise in market power today—across the economy generally, as well as within the pharmaceutical industry specifically—is a result of a shift in how policymakers viewed the harms and benefits of market power. Free market economists in the 1970s laid the intellectual groundwork for what became a broad reinterpretation of antitrust law, which resulted in regulators adopting a hands-off approach to antitrust enforcement and applying less scrutiny of mergers of giant corporations. They decided that consumers would benefit from the greater efficiency from consolidation, downplaying or discounting the benefits of competition.

This philosophy informed policymaking beyond antitrust law, as well, resulting in specific changes to the laws that regulated the pharmaceutical industry, in ways that proved to be disastrous for patients. The industry has long maintained that newly developed drugs should be granted patent protections that eliminate competition. In theory, patent monopolies provide incentives for innovators—those willing to risk the time and capital—by offering monopoly returns from their innovations for a limited period of time (i.e., legally excluding others from access to the market and the patent) (Stiglitz et al. 2015). Rather than stifle innovation, patent monopolies supposedly generate innovation by rewarding the first to develop a popular drug for a limited amount of time. Policymakers accepted this premise, mirroring the broader consensus in antitrust policy that market power did not pose a legitimate threat to consumers. Ensuing changes to the rules that govern the pharmaceutical industry unleashed a monopoly problem largely responsible for the exorbitant prices of drugs today.

In 1980, Congress passed the Bayh-Dole Act, which allowed universities, nonprofits, and small businesses to claim monopoly patent protections in the form of intellectual property (IP) for drug inventions created with federal funds. Previously, the government was given an ownership



preference of any invention created with taxpayer dollars (GAO 1998). The rationale behind Bayh-Dole was that rewarding nonprofits and small businesses with IP protections would create more competition and spur private-sector innovation and R&D. Its passage transferred economic power from the public to the private sector, giving the industry (in theory) an additional reason to innovate—as well as substantial and perhaps outsized compensation for making a popular or sought-after drug. This change also redirected public funding from innovations with a greater public purpose toward patentable and profitable inventions.

Six years later, President Ronald Reagan signed the Federal Technology Transfer Act and Executive Order 12591. His executive order extended patenting, originally limited to small business and nonprofits by the Bayh-Dole Act, to all private sector firms (Executive Order No. 12591). With this invitation, large drug corporations had the opportunity to access valuable drug monopolies formerly held by the government. With a patent in hand for a medically essential prescription drug, a pharmaceutical company could charge whatever they believed the market would bear, without fear of competition.

The Hatch-Waxman Act of 1984 attempted to address problems of high drug prices by making it easier for generic drugs to get regulatory approval and come to market. It shortened the filing and application process for generic drugs, with the intention of bringing more competition to the market. However, it also established new, legally protected periods of *market exclusivity* for drug innovators, overlapping with patent protections, so as to not reduce the incentive for private industry to innovate (Congressional Research Service 2016). The somewhat paradoxical idea was to extend the monopoly protection that shields branded pharmaceuticals to the would-be generic entrants hoping to compete with them. The monopoly protections further augmented the market power held by drug companies with patents.

Limiting Competition through Pay-for-Delay Agreements

After the passage of Hatch-Waxman, pharmaceutical companies with patents on brand-name drugs began exercising their market power through “pay-for-delay” agreements to limit competition. Pay-for-delay refers to an arrangement in which a patent-holder pays a generic competitor a portion of their monopoly profits in exchange for delaying the generic’s entry to the market. The company with the patent retains the monopoly and the generic competitor profits without risk. The only loser is the patient, who must pay a monopoly-level price for their drug. A 2010 Federal Trade Commission study estimates that these deals cost patients and taxpayers \$3.5 billion a year in higher drug prices (FTC). After decades of existing as an industry standard, the Supreme Court ruled in 2013 that the FTC held the authority to sue pharmaceutical companies with pay-for-delay contracts that amounted to antitrust violations (FTC v. Actavis). The decisions of ensuing trials have been mixed, reflecting the larger judicial shift away from antitrust enforcement. Ending pay-for-delay may be left to legislators, as courts have been unwilling to unequivocally declare the practice anticompetitive (American Bar Association 2017; Klobuchar 2017).



Taken together, these laws result in a system in which the federal government must establish and then relinquish a monopoly on a (potentially lifesaving) drug to a pharmaceutical company—even if the drug was developed using taxpayer dollars provided by the federal government. For patients, this means paying prices several thousand percent above what would otherwise be market price (Baker 2017). In regulated markets, the norm is to have either a competitive market to set prices or to do so directly via regulation if there is reason to think competition cannot be made to work. The U.S. is unique from other countries with lower drug costs in that it has neither (Baker 2017). In addition to exorbitant prices, patent-protected monopolies incentivize pharmaceutical companies to engage in other profit-seeking behaviors (Katari and Baker 2015). Because securing a patent monopoly is so lucrative, pharmaceutical companies can have a sizable financial interest in, for example, suppressing internal findings about their drugs that may jeopardize that monopoly (Katari and Baker 2015).

Creation of a Crisis: How Purdue Pharmaceuticals Chose Profits over People

In 1996, Purdue Pharmaceuticals' prescription painkiller OxyContin first came to market. Purdue aggressively marketed the prescription opioid to doctors with claims that it was less addictive and less prone to abuse than other painkillers. Internal company documents identified the “principal selling tool” of OxyContin to be its lowered abuse potential (Meier 2018). This marketing strategy propelled sales of OxyContin to nearly \$35 billion over the next two decades (Ryan et al. 2016), as Americans were prescribed more and more opioids.

Today, the opioid epidemic has claimed more than 200,000 lives, ravaging small towns and rural communities in the process (CDC 2017). The science is no longer in question: Opioids, including OxyContin, are highly addictive and have high potential for abuse. When OxyContin became inaccessible or too expensive, hundreds of thousands of users turned to heroin, its chemical cousin (Evans et al. 2018; NIDA 2017). Purdue maintains that they realized the dangers of their drug too late, just like the regulators who approved it without noting the severe risk of abuse.

Leaked documents from a U.S. Department of Justice (DOJ) investigation tell a different story. From 1996 to 2000, Purdue executives and attorneys exchanged emails about OxyContin's popularity in underground drug markets, independent studies highlighting the drug's abuse potential, and information about OxyContin-related crimes (Meier 2018). The DOJ report concluded that Purdue knew of “significant” abuse and suppressed that information in their marketing of OxyContin as a safer alternative to other painkillers. President George W. Bush's DOJ settled with Purdue in 2007 (Meier 2018).

Throughout the entire process, Purdue has fought to protect and extend its patent of OxyContin. Thirteen times, Purdue filed a new patent on OxyContin with the U.S. Patent and Trademark



Office, making minor changes to the chemical structure and design of the pill (Foley 2017). Although the original patent was set to expire in 2013, Purdue now holds its exclusive rights on OxyContin until 2030 (Foley 2017).

The opioid epidemic is the result of a variety of complex socioeconomic and political factors. It is likely that policymakers, regulators, the industry, and others shoulder blame for some degree of ignorance, negligence, or suppression—that is to say, it wasn't just the patent system that enabled the rise of OxyContin use and abuse. But the patent on OxyContin—and the effective monopoly that came with it—gave Purdue a significant financial incentive to push the drug, regardless of its risks. All businesses are motivated by profit, but the power of shareholders and the reward of patent monopolies can align to encourage pharmaceutical-industry behavior that is directly at odds with patient safety. In this case, private incentives to profit interfered with and subverted the public interest.

The specific laws that govern patent protections and market exclusivity drive the market power problem that now pervades the pharmaceutical industry today. Like other industries, however, concurrent changes to antitrust rules have resulted in decades of lax antitrust enforcement and contributed to the rise of market power within the industry. Lax antitrust enforcement—premised on the view that efficiency benefits consumers—resulted in a series of mergers that consolidated the pharmaceutical industry. Between 1995 and 2015, 60 pharmaceutical companies merged into 10 (Open Markets 2018). The power of firms at the very top is concentrating: The number of mergers and acquisitions involving one of the top 25 firms more than doubled from 29 in 2006 to 61 in 2015 (GAO 2017, 21).

One consequence of industry consolidation has been particularly troubling for patients. Because internal R&D is expensive, yields inconsistent returns, and is often time consuming, the biggest pharmaceutical firms are increasingly electing to access R&D by acquiring smaller firms. Many of these smaller firms may have been purposefully structured to be research-intensive in hopes of being acquired. Yet research suggests that these acquisitions are not always benign. A 2018 study from Yale and London Business School researchers found that “killer acquisitions,” whereby one company purchases another to suppress research and the development of rival drugs, account for approximately 7 percent of all the mergers and acquisitions in the pharmaceutical industry, preventing the availability of 5 percent more drugs a year (Cunningham et al. 2018). This abuse of market power has been made possible by changes to antitrust policy to redefine competition and the consumer interest. The broader shift in our rules has enabled pharmaceutical firms, through mergers and patent protections, to wield market power in order to increase profit-seeking—often to the detriment of patient outcomes.



Changes in Tax Policy and Its Role in the Pharmaceutical Industry

Perhaps more than any other policy area, tax policy holds the potential to influence corporate behavior. Taxes can be designed to make certain industries, activities, or geographic locations more profitable than others. In response, corporations are constantly tailoring their structure and behavior to maximize profitability by avoiding taxes. Though taxes are often (and rightly) associated with generating revenue for government, tax policy's influence on *behavior*, through its implications for the distribution of bargaining power, is perhaps more consequential to the functioning of our economy. This section will discuss how our tax rules, as written, encourage predatory hedge fund behavior, contribute to runaway CEO pay, and incentivize unproductive offshoring of profits by the pharmaceutical industry.

The tax code, specifically the rate at which we tax capital, has facilitated the rise of financialization and predatory hedge funds throughout industries. Although capital gains taxes were once higher, a series of tax cuts from the Carter, Reagan, Clinton, and Bush administrations brought the rate down to just 15 percent by 2003. Today, the top rate on capital gains is 23.8 percent—significantly lower than the rate of 37 percent on labor income.

Moreover, because capital gains taxes are only levied upon “realization,” when an appreciated asset is sold, beneficiaries can avoid taxes by simply holding on to the assets they own. If they pass them on to their heirs, the value is “reset” to the date of the benefactor's death. By this means, many wealthy individuals and families *never* pay taxes on their wealth. This discrepancy between capital gains tax and labor income tax creates an enormous financial incentive to earn income through passive investments (i.e., owning stocks or equity) rather than standard labor income whenever possible.

The preferential tax rate for capital gains led to rampant pursuit of investment income for the highest earners, and the result was an explosion of private equity firms, hedge funds, and activist investors in the financial sector. These financial institutions, by nature of their structure, could classify all of their income as capital gains rather than labor income to avoid higher tax rates. As the financial sector bled into the more traditional corporate sector, the pharmaceutical industry proved to be an attractive destination for hedge funds. With straightforward access to monopolies, hedge funds could invest in pharmaceutical companies, encouraging and implementing ever more aggressive profit-maximization strategies.

In addition to contributing to the rise of financialization in the industry, our tax policy also encourages outsized executive compensation and skewed corporate incentives. Free market economists theorized that lowering taxes—both corporate rates and individual rates—would spur investment and help grow the economy. Over time, policymakers responded by lowering top marginal rates from more than 90 percent under President Dwight Eisenhower to 37 percent, where they stand today after the TCJA.



Recently, economists found evidence that corporate executives have greater incentives to bargain for higher compensation because of the lower tax rates, even if it comes at the expense of other stakeholders or expenditures, such as raising wages for workers or investing in R&D (Sterling and Steinbaum 2018).² When top marginal rates were at 90 percent, CEOs had little reason to bargain for each additional dollar. As tax rates fell and CEO pay was tied to stock options, executive compensation exploded.

The pharmaceutical industry has been a key contributor to this explosion in CEO pay. According to a 2016 Equilar analysis, CEOs at biotech and pharmaceutical companies earn, on average, 71 percent more than executives in other industries (Krantz 2016). The average pharmaceutical CEO at a Fortune 500 company made \$44.7 million in 2015. One CEO—Leonard Schleifer of Regeneron Pharmaceuticals—made \$338 million between 2010 and 2017 (Herman 2018).

Skyrocketing CEO pay is not simply unfair. When CEOs know that their own pay will be boosted by short-term increases in stock prices, they have a significant financial interest in raising stock prices. This might mean, for example, diverting spending away from R&D in favor of stock buybacks. Excessive CEO pay reflects a misguided incentive structure created in part by our tax policy. As top effective marginal rates dropped lower and lower, CEOs in pharmaceutical and other industries have greater and greater reason to bargain for higher pay—at the expense of other industry stakeholders, including patients.

Current tax policy also leads to *profit-shifting*—a tax evasion strategy where companies move profits from a higher-tax jurisdiction to a lower-tax jurisdiction. Changes to the tax code and the proliferation of complex tax avoidance maneuvers have greatly altered corporate behavior over the last several decades. Rather than routine accounting, firms increasingly treat tax planning as a means of avoiding every possible tax liability, squeezing out additional profits and diverting all possible revenue streams to higher share prices.

Before the passage of the TCJA in 2017, the United States' 35 percent corporate tax rate was among the highest in the world. The effective corporate tax rate, however, was actually lower than most Organization for Economic Cooperation and Development (OECD) countries, in part, because the tax code rewarded profit-shifting (Steinbaum and Bernstein 2017). One early pioneer in this space was the pharmaceutical company Eli Lilly, which used loopholes in intellectual property laws to avoid taxation in the 1960s—a strategy that came to be known as *IP offshoring* (Hwang 2018).

IP offshoring refers to the practice of opening a foreign subsidiary in a tax haven, like Bermuda or the Cayman Islands, and legally transferring the company's IP to that subsidiary. Because IP

² This Roosevelt Institute issue brief draws from the research of Thomas Piketty, Emmanuel Saez, and Stefanie Stantcheva (2011).



is an intangible asset, pharmaceutical companies can easily take advantage of *transfer pricing*. What this means is that companies sell their IP to the overseas subsidiary located in a tax haven for a low price. They can get away with that because there is no “market price” to compare it to. Those companies can then claim that their profits are generated in that tax haven by virtue of their IP being located there. Active revenue-earning affiliates in the U.S. and other high-tax jurisdictions then pay high royalties to the tax haven subsidiary, booking their paper profits in the tax haven, not where they actually do business. As a result, they avoid taxation altogether on millions or billions of dollars’ worth of profit, even if the foreign subsidiary has just a handful of employees and no manufacturing capabilities.

Some problems with this arrangement are obvious, such as the revenue loss that the government faces from not being able to collect taxes on billions of dollars in corporate profits, but others may be less evident. When corporations divert their profits offshore, they are incentivized to keep those profits abroad rather than realize them in the United States and face taxation. This leads to corporations sitting on piles of money—money that could be used to invest in R&D, reduce the cost of drug prices, or pay workers higher wages (Hwang 2018).

How Flawed Tax Policy Can Exacerbate Corporate Profit-Hoarding

While IP offshoring has existed as an industry norm for decades, corporations will likely tailor profit-shifting strategies in response to the Tax Cuts and Jobs Act. In addition to lowering the statutory corporate tax rates, the TCJA establishes a new “global minimum” tax for realizing IP-generated income, which will start at 13.1 percent (Michalesko 2018). Proponents argue that this change will drive more IP subsidiaries back to the U.S., as the new rate is competitive enough that “the previous overseas strategy move may no longer justify the effort and expense,” writes Ken Michalesko of MB Financial Bank. In a 2018 report, Senate Finance Committee Democratic staff objected to this argument, finding that effective tax rates on offshore earnings will still be lower than domestic earnings, creating an incentive to move abroad (Senate Finance Committee; Thornton 2018). Even if the TCJA succeeds in reducing the existing discrepancy in taxation between these two jurisdictions, lowering the statutory corporate tax rate will further incentivize corporations to pursue higher profits, often at the expense of worker pay or investments in research and development.

Though the TCJA went into effect in December of 2017, it might be some time before its effects on IP offshoring are fully understood. One reason why is because the law is still being interpreted by the Treasury and Internal Revenue Service (IRS), which have until June of 2019 to issue retroactive regulations and guidance on the TCJA (Neumann and Ushakova-Stein 2018).



The way in which we have structured the rules of finance, corporate governance, antitrust, patent law, and taxation have led to perverse incentives in the pharmaceutical industry. And these incentives have manifested themselves in inequitable and sometimes destructive health outcomes.

Section 3: How These Rules Contribute to Today’s Extractive Pharmaceutical Industry

The rules of the pharmaceutical industry have facilitated and encouraged a range of profit-seeking practices that harm all of us. For the majority of patients, the most direct and important issues relate to price—*Can I afford this drug?*—and innovation—*Is there a better or more effective drug for my condition?*

Sudden price hikes of lifesaving drugs are among the most troubling examples of anti-patient behavior from the pharmaceutical industry. Few examples demonstrate the industry’s powerful control over prices and its ability to extract value like price hikes do. The practice is not just limited to “pharma-bro” Martin Shkreli, who infamously raised the price of malaria drug Daraprim from \$13.50 a pill to \$750 a pill in 2015, a 5,000-percent increase (Johnson 2017). Last year, Marathon Pharmaceuticals raised the price of a drug to treat muscular dystrophy by over 6,000 percent (Walker 2017). Back in 2005, Sigma-Tau Pharmaceuticals raised the price of its lymphoma drug over 1,000 percent in less than a year (Anand 2005). Questcore Pharmaceuticals has raised the price of an epilepsy drug an astronomical 97,000 percent since 2000 (Drash 2018). The list goes on and on.

Price gouging is not just a niche problem in the industry limited to a handful of drugs. The same rules that allow for a 1,000 percent overnight price increase also allow for more modest, gradual increases in price. Price gouging is symptomatic of the power imbalance between pharmaceutical companies and patients—whether or not it makes headlines.

One reason pharmaceutical companies raise drug prices is to increase share prices, as executives follow the doctrine of shareholder primacy. Industry representatives readily admit as much: “Our duty is to our shareholders and to maximize the value,” said Valeant spokesperson Laurie Little, shortly after triple-digit percentage increases in the company’s life-saving heart drugs (Rockoff and Silverman 2015). Rules legalizing stock buybacks and trends such as tying CEO pay to stock performance ingrained and legitimized the concept of shareholder primacy for corporate executive and boards.

Hedge funds, which play a large role in the financialization of the industry and our economy, also contribute to price spikes. Between 2013 and 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, either through associations with venture capital firms or through substantial hedge fund ownership (Hedge Clippers 2017). Emails reviewed by a Senate investigation on price-gouging confirmed that drastic price hikes were driven by a deliberate strategy to raise returns (Collins and McCaskill 2016, 40).

EpiPen's drastic price increases in recent years embody this hedge-fund-fueled wave. With more than 90 percent of market share for EpiPens and a decade of patent power left in 2015, drugmaker Mylan became a prime target for hedge funds (Zaitchik 2018). After half a dozen such funds bought shares of the company, Mylan began a price-spiking spree that increased the cost of a box of two EpiPens to more than \$600 (Zaitchik 2018). In May of 2017, the U.S. 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). In 2016, Coury made \$97.6 million (\$160 million when including vesting and other payments) (Stringer et al. 2017), more than the combined CEO compensation of Disney, General Electric, and Walmart (Duhigg 2017).

This behavior is also a product of the antitrust and intellectual property laws shaping the industry. In other industries, a 1,000 percent or greater hike on price overnight would not be a profitable strategy or viable means of raising share price. A competitor would be able to offer a lower rate, and consumers could boycott the company's attempted price gouge. In the pharmaceutical industry, however, drug companies can dramatically raise prices overnight with virtually no market consequence—and potentially no consequence at all, unless the behavior is so egregious that it garners attention from the general public and the political system.

The price of a drug can end up being a matter of life or death for a patient, but industry innovation—creating new medications and improving existing drugs that cure diseases and improve the quality of life for people suffering from disease or ailment—is also a vitally important component of the pharmaceutical industry. While R&D spending is an imperfect measure and predictor of innovation, it remains the cornerstone of all prescription drug breakthroughs and improvements—and the basis for industry claims that prices need to be so high in the first place.

The importance of research and development is precisely why industry spending on stock buybacks, executive compensation, and tax evasion is so harmful. The substantial sums of money spent on stock buybacks, for example, undermine industry arguments that high drug prices are necessary to continue to provide the funding needed for R&D. More than contradicting PhRMA talking points, however, the amount of money dedicated to stock buybacks represents an immense opportunity cost to patients. In the words of William Lazonick et al., the \$261 billion



spent on stock buybacks from 2006-2015 “could have been returned to households in the form of lower drug prices without infringing R&D spending, while shareholders would still have received ample dividends. Or these funds could have been allocated to the development of drugs for high priority access areas that are otherwise underfunded and underserved” (Lazonick et al. 2017).

More than contradicting PhRMA talking points, however, the amount of money dedicated to stock buybacks represents an immense opportunity cost to patients.

There is evidence that market power in the industry has similarly harmed research and development efforts. The thousands of mergers and acquisitions in the pharmaceutical industry over the last decade have been correlated with depressing effects on the innovation of the industry. A study of the pharmaceutical industry from 1988 to 2004 found that merged companies spent less on R&D than non-merged companies (Ornaghi 2009). Economists are now realizing that the effects of mergers may be even worse than initially thought. “Research has shown that pharma mergers reduce innovation. But what’s surprising and troubling is that our new evidence shows that the merging companies’ *competitors* also spend less on R&D after the merger,” write Justus Haucap and Joel Stiebale (2016), after analyzing 65 mergers. They reasoned that in competitive markets, every firm has a higher incentive to gain an advantage through innovation. More concentrated markets have the opposite effect, for both merged and non-merged firms. A result of declining competition in the pharmaceutical industry is less investment in R&D across the board.

In 2017, Forbes published a column (LaMattina 2017) by a former Pfizer executive, who wrote: “...Should companies devote even more to R&D and less to share buybacks? Well, one can make that argument regarding ANY spending done by a drug company, be it buybacks, increasing its dividend, direct-to-consumer advertising, merger & acquisition efforts, etc.... CEOs are responsible for the overall health of their companies, not just R&D.” In an important sense, the executive is correct. Even though the billions spent on stock buybacks, mergers and acquisitions, offshoring of profits, and CEO pay packages don’t create real economic value or produce the best outcomes for patients, they are good for the “health of the company,” particularly if company health is defined as what is in the best interest of company shareholders and company executives.



Conclusion

Problems in today’s pharmaceutical industry, including high prices, low investment, misaligned incentives, and escalating CEO pay, are real and worth analyzing—not just for their own sake, but for the human cost they represent. Doctor Nicky Mehtani (2018), a physician at Johns Hopkins Hospital, wrote of her struggle to explain to a young teenager the loss of his grandmother. “In medical school, they never teach us how to tell our patients or their grieving family members that an ‘inability to afford medications’ is a possible— if not common—cause of death. Neither does the Maryland Department of Health allow us to list ‘inability to pay’ as a cause of death on death certificates. Yet, in this patient’s case, there was no truer underlying cause of death than the blatant unaffordability of her prescription medications.”

For too many Americans, the failures of our pharmaceutical industry can be fatal. But it does not have to work this way. The problems of the pharmaceutical industry—high drug prices, insufficient investment into research and development, skyrocketing CEO pay, and more—are not inevitable consequences of markets but rather the result of conscious policy choices by the legislators, regulators, and institutions that structure it.



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