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Stigler's *Theory of Economic Regulation*  
After Fifty Years

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## Abstract

George Stigler's "The Theory of Economic Regulation" (1971) is a landmark in the economics of regulation. It used simple public choice reasoning to set out the "capture theory" of regulation whereby "... *as a rule, regulation is acquired by the industry and is designed and operated primarily for its benefit.*" This article, written for a commemoration of the 1971 article in *Public Choice*, summarizes the context within which the article appeared and evaluate its long run impact. A central argument is the need to distinguish "acquired" from "designed and operated." The rule that regulation is produced in response to industry pressure seems honored mainly in the breach. Maintenance of the institutional status quo seems the more common industry goal. However, once the status quo is altered, the industry interest will, as Stigler argued, receive disproportionate weight. I discuss and analyze the varying impact of industry interests over three significant regulatory transitions – in transportation, pharmaceuticals and banking. I conclude that the durable impact of Stigler (1971) comes from the public choice framing and the consequent importance of organized interests to analysis of regulation.

**Key Words:** Regulation, Capture, Interest Groups, Political Economy, Public Choice, George Stigler.

**JEL Classification:** D72, D73, D78, H11, K20, K23, L51

It is fitting that *Public Choice* is commemorating the fiftieth anniversary of George Stigler's (1971) *Theory of Economic Regulation*. The article was an early application of public choice reasoning to a practical problem – the work of regulatory agencies. It has had a durable impact. I will try to summarize that impact after reviewing the context in which the article was written: What was Stigler's line of reasoning and what remains of it today? I am honored that the editors should ask me to evaluate the article, and I am humbled by the task.

I will try to be objective about the article and its context. But I have been involved in this history on several levels. I was a student of Stigler's, a colleague for many years and a participant in some of the academic discussion spawned by his 1971 article. I even partook – briefly and ineffectively- in some of the related policy making. But more of that later.

## 1. The Article and its Time

Stigler's *Theory* emerged in the wake of unusual ferment in the regulation literature. A substantial empirical literature on the actual effects of regulation had emerged in the previous decade. Such work is a staple of the regulation literature today, but it was new back then. Stigler and Claire Friedland's 1962 article on electricity regulation can claim primacy here.

For economists c.1960 regulation was a topic in applied welfare economics. Specifically, the regulatory economists of that day began with some market failure that needed correction by state action. Then they explained what kind of regulation would be needed to correct the failure. The actual regulatory institutions would then be discussed in light of that ideal. These institutions generally came off well. They seemed to emerge where market failure was plausible (e.g., utilities, railroads). The various regulatory commissions and agencies seemed designed to push output in the right direction. Accordingly the "public interest" motivation and the broadly beneficial effect of the regulation were not

seriously questioned. Come to think of it, this is still the way many economists c.2020 tend to think of regulation, unless they belong to the Public Choice Society.

So the question motivating Stigler and Friedland (1962) – what is the effect of public utility regulation on electricity prices? - was implicitly heretical. Of course, regulation restrained the exercise of monopoly pricing power in this quintessentially natural monopoly. Their answer – that the regulation actually had no effect on prices – was then explicitly heretical. Note also the tension between the 1962 conclusion of ineffective regulation and the 1971 article's regulator who effectively stifles competition.

The importance of the 1962 article is not the answer but the question. The answer may be wrong (Peltzman, 1993). The empirical techniques were not novel, even for that time. But the question – what is the actual, not the presumed, effect of regulation? – was novel and provocative. Indeed it provoked a flourishing of empirical work on the question. This posing of the right question is I think the hallmark of Stigler's influence not just here, but in the 1971 article and in other important contributions –such as to oligopoly theory and the economics of information.

Another Stiglerian hallmark is giving a provocative answer to the well-posed question. Maybe it wasn't the right answer or a complete answer, but it did provoke. In this case the provocation was productive. By the end of the 1960s there was a literature on the actual effects of regulation. Some did not sit well with the ineffective regulator of the 1962 article, but much did not sit well with the “public interest” regulator either.<sup>1</sup> This is not the place to review that literature, but the examples of transportation and occupational licensing that Stigler (1971) employs will convey a sense of direction.

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<sup>1</sup> Stigler gradually abandoned the ineffective regulator under the weight of contrary evidence. But it took some doing. I was his Ph.D. student during that transition. My dissertation topic was the effect of federal insurance of bank deposits on entry into commercial banking (effectively you needed a grant of insurance to start a new bank). For a half year or so I worked on my own, learning about the history, assembling data, running regressions and writing it all up for Stigler's perusal. I could not avoid the conclusion that the regulation had substantially reduced the rate of entry into banking. He had one comment: “This is fine for preliminary work. Come back in another 6 months with the right answer.” Facts are stubborn. I never could get the right answer, and fortunately for me he eventually relented.

Often, as in those examples, actual regulation worked in the opposite direction from the “public interest” regulator. Stigler (1971) is an attempt to give theoretical unity to this emerging revisionist literature.

The 1971 article poses an implicit question: what kind of outcome can we expect from regulation? Just assuming that a regulator is a *deus ex machina* maximizing a social welfare function doesn’t seem to give us the right answer. So Stigler looks in a public choice direction: we should start from the fact that regulation is created and regulators are chosen and replaced in a political process. Regulatory outcomes have to serve the needs of that process. So the question needs reframing: what outcome will emerge from the political process shaping regulation?

His answer draws on several strands of the then emerging public choice literature. Lurking in the background<sup>2</sup> is the rational, in the *homo economicus* sense, regulator and politician of Buchanan and Tullock (1962). Whatever the outcome it had better be consistent with the interests of the political actors, which is fine if they coincide with yours and mine. But usually they will not. The reason is that the political process has to mediate a competition of private interests for the services of the state. For simplicity think of the competition as one between the interests of consumers and producers. We consumers, Stigler argues, are at a competitive disadvantage.

Two more public choice classics explain why. You cannot be politically effective if you do not even know what to ask for. The consumers are a large group with a small per capita stake in any regulatory outcome. They will be “rationally ignorant” per Downs (1957): regulatory outcomes are too unimportant for typical consumers to justify the effort of learning about what is at stake.<sup>3</sup> The producer

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<sup>2</sup> But uncited

<sup>3</sup> When I taught the subject I would ask the class a simple question: can you name the agency that regulates electricity rates in this state? Very few could answer correctly. To those who did I posed the following: can you tell me whether, on the whole, the decisions of the...Commission benefitted or harmed you? I never got any answer.

side will have a large stake and so be rationally informed. Then, once we know what is at stake and therefore which political actors merit our support, that support will have to be delivered in a form that moves those actors to favor us. This requires collective action – to lobby, to finance political campaigns, to reward with employment in the political afterlife, etc. Stigler draws from Olson (1965) the conclusion that the more compact producer group will be more successful at solving the resulting collective action problem.

Once the rational political actors are confronted by ignorant, unorganized consumers on one side and well informed, organized and politically effective producers on the other, there is little doubt about who wins the competition:

*... as a rule, regulation is acquired by the industry and is designed and operated primarily for its benefit. (Stigler, 1971, p3)*

And so the “capture theory” is born.

## 2. How Should We Evaluate the Article?

I will argue that the enduring impact of Stigler, 1971 is more about the framing of a question than about the specific answer. Like the Ineffective Regulator of 1962 the Captured Regulator of 1971 is overstated but highly provocative. But without the provocation would we be here commemorating a fiftieth anniversary?

The capture theory does seem to fit some prominent cases, such as Stigler’s motivating examples of truck regulation and occupational licensure. However, problems not easily covered by the “as a rule” exception surfaced quickly. Immediately after Stigler’s article in the Spring, 1971 issue of the *Bell Journal* you will find “Taxation by Regulation” by Richard Posner, Stigler’s law school colleague. It lists prominent examples of regulatory cross-subsidization, whereby producer rents are created and

then dissipated in mandatory provision of below cost service to favored consumer groups. Posner's list is not a rigorous empirical analysis of cross-subsidies, but specialists in administrative law or economics could not fail to notice the pervasiveness of the practice in the history of regulation.

We also have 20/20 hindsight of the proliferation of "social regulation" that was underway when Stigler (1971) appeared. Environmental regulation is perhaps the most prominent example. Others include worker safety, the security of their pensions and consumer product safety. By some measures this regulatory expansion was, and remains, historically unprecedented. Typically social regulation cut across many industries. And it was invariably resisted by those industries. On the other side, deregulation of industries like transportation and securities brokerage surfaced in the late 1970s amidst significant industry resistance. Then more recently we get "reverse capture", where the industry is created by the regulator – as in renewable energy, biofuels and the like. None of these developments seem contemplated by the capture theory.

The capture theory itself soon morphed into a more nuanced "economic theory" of regulation, as in my 1976 article and Becker (1983). The economic theory retained the public choice elements of the capture theory but allowed for the political relevance of multiple interests. The allocation of rents among competing interests (as in Peltzman, 1976) or the resistance to extraction of rents (as in Becker, 1983) play prominent roles in the economic theory. Stigler himself eventually embraced these developments, as he had embraced the demise of the ineffective regulator in the 1960s.

#### a. The tyranny, or otherwise, of the status quo

An abiding difficulty of both the capture and economic theories is their "'blackboxing' [of] the 'supply side'" (Laffont and Tirole, 1991). That is, they posit a "political process" which somehow responds to the pressures exerted by politically relevant interests. The institutions that create the agencies, appoint the regulators and supervise their performance are mainly ignored, lumped into a

single political process and hidden within a black box. This is analytically tractable but obscures important distinctions.

The distinction I want to pursue is between the creation (the “acquired” part of Stigler’s famous quote) and the output (design and operation) of regulatory bodies. Even casual history suggests that these often respond to different political forces and interest groups. In particular, the industry often – perhaps mainly – resists the establishment of regulation. The affected industries resisted the consumer reforms of the Progressive Era, the labor reforms of the New Deal and the social regulation of the 1970s. But, once confronted with the reality of the regulation, the industry interest usually plays a prominent role in what these agencies do. I discuss two such examples of initial resistance and subsequent accommodation later on.

A common thread in industry resistance to new regulation is a preference for the status quo. That preference is often shared by other politically relevant interests. There is an investment and organizational aspect to collective action. The actors are trying to deal with and influence a specific set of institutions. Over time they learn how to best cope with these institutions. Significant institutional disruption, such as new regulation or substantial change in old regulation (e.g., deregulation) would render this investment in knowledge and skills obsolete. No wonder the investors resist change.

My lone foray into regulatory policy provides an illustrative story. In 1970-71 I was on the staff of President Nixon’s Council of Economic Advisers. This put me on an interagency committee charged with considering reform of transportation regulation. Our main focus was surface freight, more specifically railroads and common carrier trucking. Both were regulated by the Interstate Commerce Commission, the granddaddy of all independent federal regulatory agencies. Every relevant economic

interest was represented on our committee through members from the various federal agencies.<sup>4</sup>

Competition and efficiency were represented by the Council, Department of Justice and the Office of Management and Budget.

The time for regulatory reform seemed right. The railroads were in financial turmoil. The largest railroad by revenue, the Penn Central had just filed for bankruptcy. Others in the Northeast and Midwest were headed the same way. Congress created Amtrak to socialize the railroads' passenger losses, but it was not going to be enough to stanch the flow of red ink. These financial difficulties mirrored the unraveling of an intricate system of cross-subsidies financed by rents generated by the regulated price structure. Those rents had disappeared from the railroad industry. The main beneficiaries of the regulation were the truckers and their unionized workers. Overall, there was enormous inefficiency, high prices for shippers and a spreading financial crisis for the railroads. None of this came as a surprise to transportation economists, who had long understood the source of these problems (e.g., see Meyer et al, 1959 or Friedlaender, 1969). And we representatives of competition and efficiency were advocating these economists' solution, which was to allow more competition within and between the trucks and rails.

We seemed to be making slow progress. The political operatives in the White House were generally supportive. Opposition from within our committee appeared to be abating. The main puzzle was the uneven reaction from K Street. The truckers and teamsters were lobbying actively for the status quo, which was unsurprising. But neither the railroads nor the various shippers, who stood to gain from more competition, were actively lobbying for change. So it went until one day I was called to a meeting in the West Wing. The large room was crowded with everyone involved with the project.

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<sup>4</sup> For example, Transportation covered the carriers, Commerce, Agriculture and Interior covered the shippers, and so on.

The meeting had been called by the Republican Minority Leader of the House of Representatives. He minced no words. We got a stern lecture in applied public choice to explain why transportation reform was a bad idea. Most of the 435 Representatives, he told us, had a few truckers and a teamsters local in their district. He described the vigorous lobbying of these constituents and how this had frightened many of the Members, especially the minority Republicans who might have to take a very tough vote if the administration sent a reform bill to Congress. He was emphatic. Our initiative needed to be killed. And so it was.

Some years later, the late Paul MacAvoy and I conversed about the Council in the 1970s. MacAvoy served on the Council in the Ford administration. He told me that the day he arrived for work he was called into the Oval Office. President Ford said that he knew the Council was studying transportation deregulation. Ford told MacAvoy to make that project the Council's highest priority. He wanted to have a Bill on his desk within 18 months. Perhaps you know the rest of this story. Within five years of this meeting every item on my committee's 1971 agenda had been enacted into law. The fearsome trucker-teamster lobby had essentially disintegrated, transportation prices declined, and the railroads regained health. Perhaps you also know that President Ford, who deserves credit for re-launching the push for deregulation in 1975, is the same man who had effectively killed it in 1971.

What can account for this volte-face? It is not enough to say "same man, but different job description," because the President also has to worry about the political welfare of his party's Congressmen. I would argue for "same man, different times." The status quo was coming under pressure in 1971, but not enough. All sides could still prefer the devil they knew to the one they knew not. But as the 1970s wore on the cracks grew wider. Stagflation reared its head. By the time Ford took office Nixon's wage and price controls had failed and inflation was accelerating. The ability to point to a major sector with falling prices became politically valuable. The status quo was also becoming more expensive. The Penn Central was nationalized (renamed Conrail) and Congress had to cover the losses

on budget. These mounted into the several billions, which was real money in those days. Eventually Congress decided it had better things to spend those billions on. Once that decision was made the only realistic alternative was to let the railroads shrink into viability and then compete for profitable traffic, which is essentially what regulatory reform did.

The moral of this long story is that the status quo exerts a powerful political grip, but when the status quo is no longer viable politically major regulatory change can occur whether or not sought by the regulated industry. Once the change occurs, however, the public choice calculus of Stigler, 1971 becomes salient. The industry, perhaps now with different firms and different personnel, will inevitably play a prominent role in shaping the new institutions and policy.<sup>5</sup> The capture theory and the subsequent economic theories do have something to say about institutional change.<sup>6</sup> But the failure of these theories to distinguish change from operation is a significant limitation, as I illustrate in the next section.

#### b. Regulatory change and its consequences: two examples

In 1962 Congress amended the Food Drug and Cosmetics Act to increase regulation of the introduction of new drugs. In 2010 Congress passed the Dodd Frank Act to increase regulation of banks, especially very large banks. In neither case did the industry seek the increased regulation. Indeed, each industry opposed the main provisions of each law. Both laws significantly altered how the industry and its regulators interacted. The two histories share certain similarities that are relevant to the theory of regulation.

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<sup>5</sup> Many years after railroad regulation was reformed I shared a podium with some industry executives. They were uniformly supportive of the new status quo, and their major political battle was to defend against pressure for re-regulation.

<sup>6</sup> In Peltzman et al, 1989 I try, with mixed results, to apply the economic theory to the deregulation events of the 1970s and 1980s.

In 1962 a populist push against high drug prices merged with safety concerns to create a winning political coalition for change. The pharmaceutical industry had grown significantly from new drugs based on major postwar innovation in antibiotics, psychotropics and other areas. The populist concern – led by Tennessee Senator Estes Kefauver – was that many of the new drugs were trivially different “me too” drugs that made extravagant claims to lure gullible consumers into paying too much. Kefauver was making slow progress until one new drug, thalidomide, made news. The drug was marketed in Europe as a sedative for pregnant women and was ready for US introduction. It was implicated in serious birth defects that made for arresting press accounts and photos.

The existing law required approval of a new drug’s safety by the industry regulator, the Food and Drug Administration (FDA). However, the FDA had a limited time to deny approval. As time was about to run out in the summer of 1962 the FDA examiner, Frances Kelsey, was able to keep thalidomide off the US market and thereby earn a place in history. Nevertheless, some thalidomide had leaked into the US market via physician samples, and the sense of a major disaster narrowly averted added safety concerns to the ongoing Congressional scrutiny of industry marketing. That combination is reflected in the 1962 amendments: new drugs now required proof of both safety and efficacy<sup>7</sup> before they could be marketed, and no time limit constrained FDA authorization. Procedural detail was left to the FDA, which issued the first implementing regulations in early 1963.

[Figure 1]

This history, as reflected in pharmaceutical industry stock prices, is in Figure 1. It shows the fortunes of a hypothetical investor who bought a portfolio of drug stocks at the start of 1962 while shorting the market. The hearings leading to the passage of the amendments are not good news for drug stock owners. Our hypothetical investor loses 15 per cent up to the date of the vote (solid vertical

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<sup>7</sup> Efficacy meant that the drug worked as the manufacturer claimed.

line). Most of this is made up quickly, and the investor is down 5 per cent by the time the first implementing regulations are issued, which is where Figure 1 ends. On the whole, owners of drug firms are hardly greeting the 1962 Amendments with enthusiasm.

The implementing regulations of 1963 would go on to define the modern pharmaceutical industry. They provide a three stage process for approval of any new drug. The last stage (Phase III) is a randomized controlled trial which tests the new drug against some null hypothesis, usually a placebo or current best medical practice. The FDA commissioners then decided whether the null should be rejected.<sup>8</sup> This process has good and bad implications for industry wealth. The bad implications are the extra costs an innovator incurs to comply with the process. These are considerable. According to DiMasi et al (2016) the out-of-pocket cost per approved new drug is around \$1.4 billion (2013 dollars), and the total time required for the three phases is 12 years.<sup>9</sup> These figures are many times what they were in 1962, but the technology and products liability law have also evolved since then. So it is not easy to define the less-regulated counterfactual. But we do have clues: according to DiMasi et al (2016) the mean time from application for permission to market a new drug (at the end of Phase III) to decision is 16 months or 1/6 of the total, and 3/4 of the out-of-pocket cost for a successful applicant is in Phase III (when the applicant is mainly satisfying the efficacy requirement, which is the main innovation of the 1962 amendments). All in all owners of rights to a promising drug clearly are taxed heavily by this process.

The good news is for everyone else in the industry, including owners of rights to existing drugs. These regulatory costs are a barrier to entry that protects incumbents and also creates consequential assets. There is learning-by-doing whereby the larger incumbents (collectively known as Big Pharma) acquire knowledge of how to navigate the regulatory process, especially the crucial and costly Phase III.

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<sup>8</sup> The decision could be appealed in court, but courts have been deferential to such regulatory judgments.

<sup>9</sup> Accounting for the opportunity cost of capital tied up for these 12 years roughly doubles the cost.

A common path for a bio-tech innovator today is to either merge or sell to a Big Pharma incumbent or enter into some kind of joint venture. One motivation for these transactions is to access Big Pharma's expertise in dealing with the regulators. This asset can have considerable value.

[Figure 2]

Figure 2 gives a sense of how much this value might be. It shows what would have happened if our hypothetical investor had held onto the portfolio in Figure 1. The long side of that portfolio is essentially US Big Pharma. Nothing much happens until 1965, when prosperity descends. Over the next few years the portfolio essentially doubles in value while shedding market risk. This good fortune for the industry has many sources, regulatory as well as non-regulatory. However, it is fair to say that the fears for a bad outcome from regulation that surface in Figure 1 were not realized. The regulation was not welcomed by the industry, but it also created rents that are capitalized into industry stock prices. On balance, the regulation is no obstacle to industry wealth.

My second example – the Dodd Frank Act of 2010 – tells a similar tale. Here the status quo is upset by the financial crisis of 2008-2009, which entailed federal government bailouts of banks and other financial institutions deemed “too big to fail” (TBTF for short). Within a year of the bailouts Congress had been stirred to action by some combination of leverage over the TBTF banks via the various forms of government assistance, public resentment over using federal funds this way and a desire to avoid future similar disasters. The Act, with its multiple chapters and 2000+ pages, is too big to summarize here. I will refer only to the provisions which increased regulation of bank soundness.

These created a new regulator (Financial Stability Oversight Council) which was to cooperate with regulators in the US and internationally to promulgate rules that would hopefully avert future bank solvency and liquidity crises. The lesson of 2008-2009 seemed to be that the systemic threat emanated from the behavior of the TBTF banks that had to be bailed out. Omitting details, a classification of banks

and other financial institutions emerged that was focused on size: every large bank<sup>10</sup> was designated as a Systemically Important Financial Institution (SIFI). These would be subject to greater capital and liquidity requirements than other banks. In cooperation with the Bank for International Settlements (a sort of trade association for bank regulators and central banks) a subset of SIFIs was designated as Globally SIFI (GSIFI), a group dominated in the US by the four largest banks, two of which had been bailed out in the financial crisis.<sup>11</sup> These would be subject to the highest capital and liquidity requirements, as well as annual “stress tests”<sup>12</sup> whose failure would be consequential.<sup>13</sup> Other provisions of the Act, such as the Volcker Rule<sup>14</sup>, which technically apply to any bank, were mainly aimed at the GSIFI Banks.

[Figure 3]

The TBTF banks did not welcome this increased regulatory scrutiny. The advent of Dodd Frank was certainly not a great time for their stockholders. Figure 3 shows cumulative returns to a portfolio that is long the GSIFI banks and short other large banks that are not SIFIs. That is, we are long the banks most regulated by Dodd Frank and short the least regulated but still large banks. In this way, we remove shocks common to the banking industry. The returns are cumulated over a period that starts with the first Congressional hearings in 2009 and ends with enactment of Dodd Frank in the summer of 2010. By

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<sup>10</sup> The US size threshold was \$50 Billion, and it also included investment banks and insurance companies.

<sup>11</sup> The US GSIFIs include six banks and two investment banks (Goldman Sachs and Morgan Stanley). The commercial bank GSIFIs are JP Morgan Chase, Bank of America, Citigroup and Wells Fargo, which collectively hold around 40 percent of domestic bank deposits. Two “trust banks” (which specialize in institutional asset custodianship and servicing) – BNY Mellon and State Street – are also GSIFIs.

<sup>12</sup> Here the regulator – the Federal Reserve Board in the US – estimates the impact of various adverse macroeconomic scenarios on the bank’s portfolio. The Fed does not disclose the scenarios or the model linking them to the portfolios.

<sup>13</sup> These could include, e.g., higher capital and liquidity requirements, including restrictions on dividends. Stress testing is not limited to GSIFI banks, but they are the main targets of concern.

<sup>14</sup> This prohibits banks from trading securities for their own account (v. trading to accommodate the needs of a client). Drawing a line between the two kinds of trading proved difficult. The rule was not finalized until 2013, and it has been subsequently amended several times.

that time the portfolio has lost around one fourth its value. It looks like most every step on the road to enactment brought bad news for the GSIFIs.

[Figure 4]

Dodd Frank, in spite of its great length, is typical of most contemporary regulatory legislation in leaving the details of implementation mainly to the regulators. So, if the GSIFIs did not seek to acquire Dodd Frank, how did the design and operation work out? Not too badly according to Figure 4, which shows cumulative returns to the same portfolio as Figure 3 for the first few years after enactment. The initial year and a half or so bring still more pain – we are down another 20 percent by late 2011. But then things turn up, and continual positive shocks over the remainder of the period wipe out all the losses.

Some caveats are in order. We have two anecdotes here, written in stock prices. This barely meets the Stiglerian definition of data.<sup>15</sup> We have long time periods over which regulation is only one of many factors affecting banks and drug companies. For such reasons the case I am making can only be suggestive. The suggestion is that we should distinguish between acquiring regulation and its design and operation.

Neither Big Pharma nor the TBTF banks plausibly sought the regulatory changes that shook their industries. From the negative initial stock market reactions we can infer that their owners would have preferred the status quo. I would argue that the public choice logic of capture actually implies a status quo bias. In that logic, the nature of any regulatory status quo will be heavily influenced by concentrated, organized, rationally informed groups including, prominently, the industry. Those groups will have learned what their stake in the status quo is and how best to cope with it. That knowledge is a

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<sup>15</sup> As “the plural of anecdote.” I only heard him say it, so it is left as an exercise for the reader to find the written quote, if any.

valuable asset. A threat to the status quo is a threat to the value of this asset. There may be gains down the road – as, for example, there were to the railroads after the Staggers Act – but these are uncertain and may require risky new investment in regulatory influence capital.

However, once the status quo is changed, the same public choice logic suggests that the industry interest will not be ignored even if the industry opposed the change. Industry participants will have the right public choice incentives to build up a new base of influence capital over the new status quo. The issues may be different, the players may be different and the doors to be knocked upon may differ, but the diffuse, rationally ignorant and unorganized interests will not be playing and knocking. The industry will. If the status quo has shifted toward more regulation the industry has a further benefit from its influence – a likely reduction of competition.

This happens because of a necessary symbiosis between the industry and the regulator. The latter needs information about the industry's operation to make rules. From where does this come? So too does the industry need to know how the regulator responds to information. From where does that come? The answer is sometimes called the revolving door, whereby the same people move between industry and the regulator. The term has a pejorative connotation, and there are occasional efforts to contain it<sup>16</sup>. However, some form of the revolving door is inevitable unless rules are to be detached from industry reality. Another aspect of the industry-regulator symbiosis is complexity. Industry reality is complicated, and the regulator will be pressed by incumbent firms to accommodate the nuances. The result is complicated rules rather than simple ones and investment by incumbents in a lobbying and compliance infrastructure to mold the complexity and cope with it.

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<sup>16</sup> For example, by mandated "cooling off" periods between exit from a regulatory position and employment by a regulated firm.

A potential new entrant now faces extra costs. The rules and compliance regimes have been influenced by incumbents, presumably in ways that are most beneficial to them. The potential entrant needs to overcome those biases as it builds its own influence capital. There is also a fixed cost element to such investments that works against small scale entry and also induces exit and merger of smaller competitors. In this way, all of the forces making the regulators and incumbents mutually dependent will have the perhaps unintended effect of weakening competition.

This line of argument connecting regulation to competition should be regarded as a hypothesis, or an interpretation of the “designed and operated” part of Stigler’s famous quote. I am not alone in advancing such argument. Here is the CEO of a GSIFI addressing an investor conference five years after passage of Dodd Frank:

. The introduction of new regulations has accelerated the evolution in certain areas, including market structure....

More intense regulatory and technology requirements have raised the barriers to entry higher than at any other time in modern history. This is an expensive business to be in if you don’t have the market share and scale. Consider the numerous business exits that have been announced by our peers, as they reassess their competitive positioning and relative returns.<sup>17</sup>

He hadn’t asked for the new regulation but now sees some benefits for his firm. The Stiglerian hypothesis here is testable: more regulation should slow entry and advantage incumbents. It is worth serious study, but some systematic evidence (Gutierrez Gallardo and Philippon, 2019) favors the hypothesis.

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<sup>17</sup> From a presentation by Lloyd Blankfein, CEO of Goldman Sachs to the Credit Suisse Financial Services Conference, February 10, 2015.

### 3. Summary

Stigler, 1971 has influenced economists' thinking about regulation for 50 years. I have tried to explain this enduring influence. Above all, he asked the right questions: why do we (really) have regulation? What can we (realistically) expect it to do? He answered, using public choice logic, with a capture theory of comprehensive scope: the industry acquires regulation and then designs and operates it for its benefit. My argument in this paper has been that two elements of the original theory have endured. One is the application of public choice logic to analysis of regulation, and the other is the implication of that logic about the great weight of the industry interest in the implementation of regulation. I have also argued for the need to distinguish implementation from acquisition: I think we would not be here if Stigler, 1971 was only a theory of entry into regulation.

Stigler's application of public choice logic emphasizes the role of organized interests – interest groups who know what their interest is and can overcome barriers to collective action in pursuit of that interest in the political arena. That emphasis on interest groups essentially shaped subsequent development of general theories of regulation for the next two decades. This is most obvious in the Economic Theory of Regulation (e.g., Peltzman, 1976; Becker, 1983), which generalized the set of politically relevant interests. It is also evident in theoretical (e.g., Laffont and Tirole, 1991) and empirical (e.g., Weingast and Moran, 1983) work that tries to understand what it is within the Stiglerian “black box” that links interest groups to outcomes. The development of general theories of regulation receded in importance as regulatory economics shifted to analysis of specific cases, which is the dominant emphasis today. So Stigler, 1971 remains a canonical reference for any article that wants to recognize the importance of the industry interest.<sup>18</sup>

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<sup>18</sup> For example, close to 10 percent of all Google Scholar cites to the article (1270 of the 13,521 that showed up in an early 2021 search) are from 2019 and later.

I argued that Stigler's theory runs into difficulty when applied to the birth (or death) of regulation. Some regulation is plausibly acquired by the industry, but too much cannot be so seen. Instances of industry opposition to new regulation seem too numerous to ignore. To this day we lack a good theory of regulatory entry and exit. This may be a casualty of the dying out of interest in general theories of regulation. I have surfaced the need to overcome a preference for the status quo by politically relevant interests as one possible element in such a theory and also the role of crises, such as the recent financial crisis and the thalidomide episode of 1962, in overcoming that bias.<sup>19</sup> Clearly there is work to be done on the topic of regulatory change.

The capture theory's main contribution is to understanding what happens after a new regulatory initiative is launched. It is not that the new institutions and rulings will be designed solely to maximize industry rents. Soon after Stigler, 1971 such "strong form" capture gave way to one of competition and negotiation among varied interests. What endures is that the public choice elements of the capture theory assure that the industry interest will be heard and heeded and that any other interest that is also politically effective will have to be organized, articulate and deliver political pressure. That insight is probably Stigler, 1971's greatest accomplishment.

I conclude with a contemporary example that I think can illustrate the preceding arguments: the pressure to expand regulation of hydraulic fracturing in oil and gas production. Are we going to get some nationwide fracking regulation (on top of the variety of local regulation)? How restrictive will it be if we get it? Such questions are now very much up in the air. Stigler's theory is hard to apply to these questions. For one thing, what is the industry interest? There are drillers and producers, buyers and sellers, suppliers (of goods and financing) to the drillers and producers), green groups and labor unions

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<sup>19</sup> Other elements might include the political background. There were three waves of new federal regulatory agencies in US history – the Woodrow Wilson Progressive Era, the Franklin Roosevelt New Deal and the Nixon presidency. All of them were the product of Democratic congressional majorities.

and politicians responsive to both, and so on. Many or all have the attributes to be politically relevant. It is thus premature to map Stigler's theory to any predicted equilibrium, if more regulation is indeed forthcoming. But the theory does clearly predict what the equilibrium will not be. It will not be the output of fracked oil and gas that maximizes the difference between the social benefits and costs. The theory also predicts that the deviations from such a "public interest" standard will reflect the weight of those interests that do organize and provide effective political pressure. For example, a restrictive outcome could emerge from a de facto alliance of producers and anti-producer environmentalists.<sup>20</sup> But we cannot yet rule out a less restrictive outcome that serves the opposing interests of the drillers, their workers and their various allies. We can also say that any outcome will be implemented in a way that favors incumbents over outsiders. For example, if it is a restrictive equilibrium new drilling will bear more of the restriction than incumbent producers; incumbent drillers will be less restricted than potential entrants; and so on. We will get these results in part because the regulators will need to rely on incumbents for information and personnel. This will enhance the value of the incumbents' influence capital. The influence and compliance advantages of incumbents will also tend to increase their size.

For all that it cannot tell us, Stigler, 1971 set off a line of theory with rich empirical implications about the way that regulation actually works. We may soon learn if those I have just applied to fracking are correct or not.

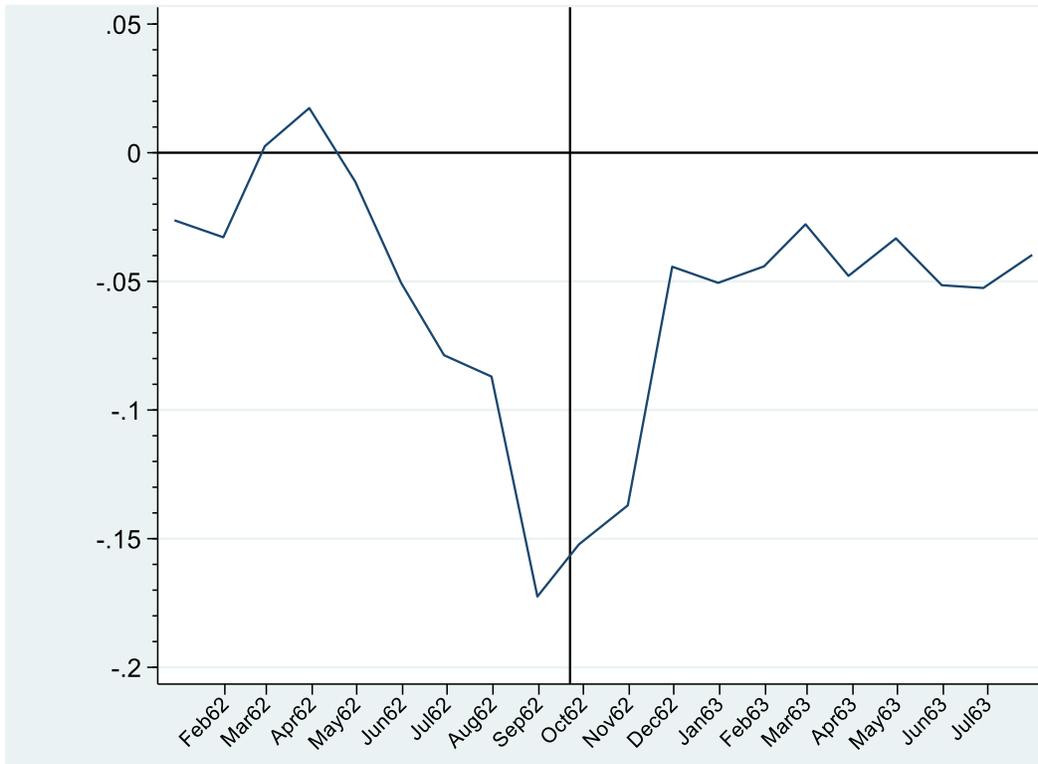
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<sup>20</sup> This is the "bootlegger and Baptist" equilibrium (Yandle, 1983) whereby the economic interest of the producers (the bootleggers) in output restriction (prohibition) coincides with the ostensibly higher minded interest of the greens (the Baptists).

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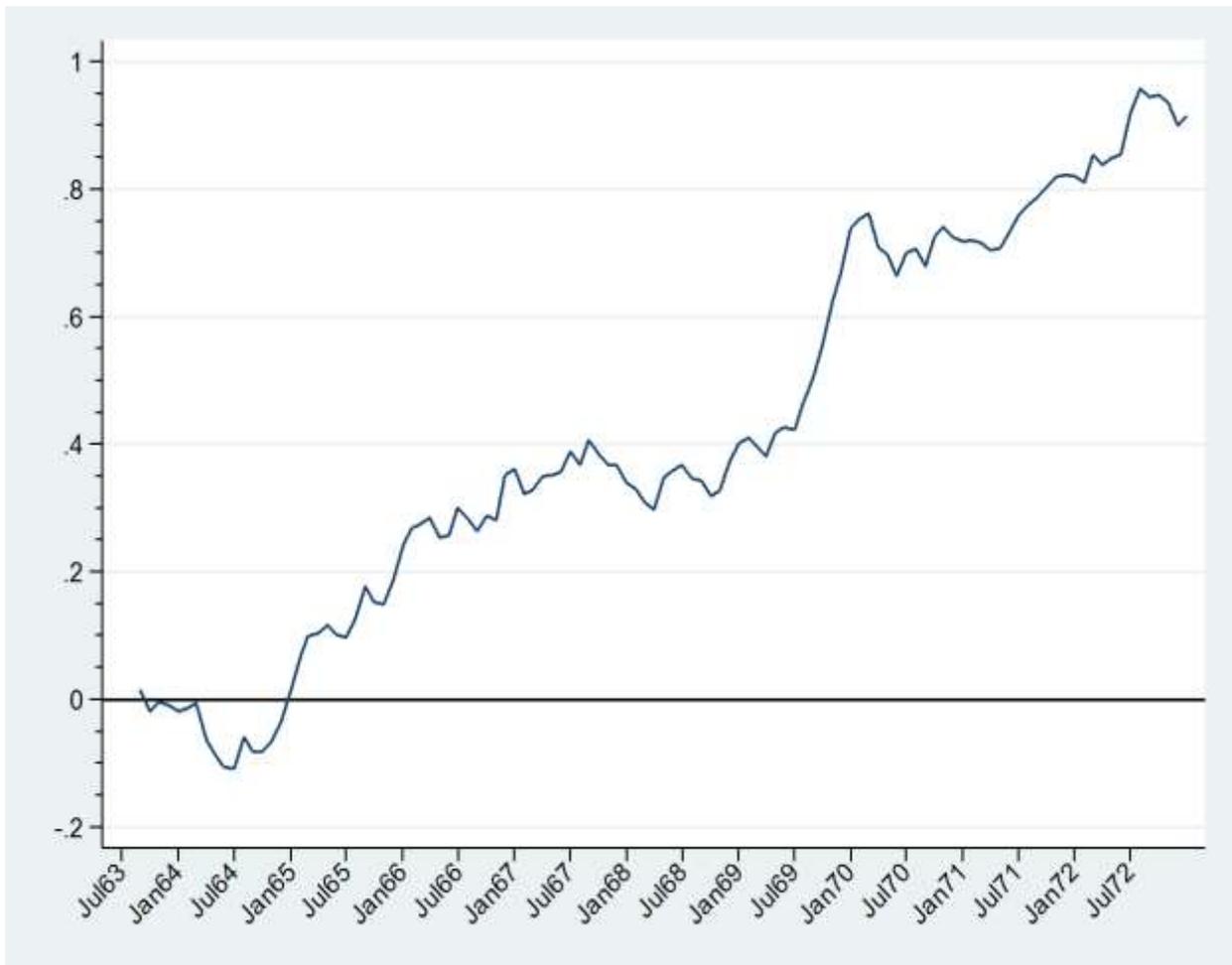
**Figure 1. Cumulative Returns for Pharmaceutical Stocks less All Stocks. 1962-1963**



Data show cumulative monthly returns for a portfolio of pharmaceutical stocks less returns on a market portfolio from December, 1961 through August, 1963. Both portfolios are value weighted. The pharma portfolio includes: Abbot, Baxter, Bristol Myers, Carter, Johnson and Johnson, Merck, Norwich, Parke Davis, Pfizer, Plough, Richardson Merrell, Schering, Smith Kline French, Sterling, Upjohn and Warner Lambert. The date of passage of the 1962 amendments is shown as the vertical line.

Stock prices are from Center for Research in Security Prices, University of Chicago Booth School.

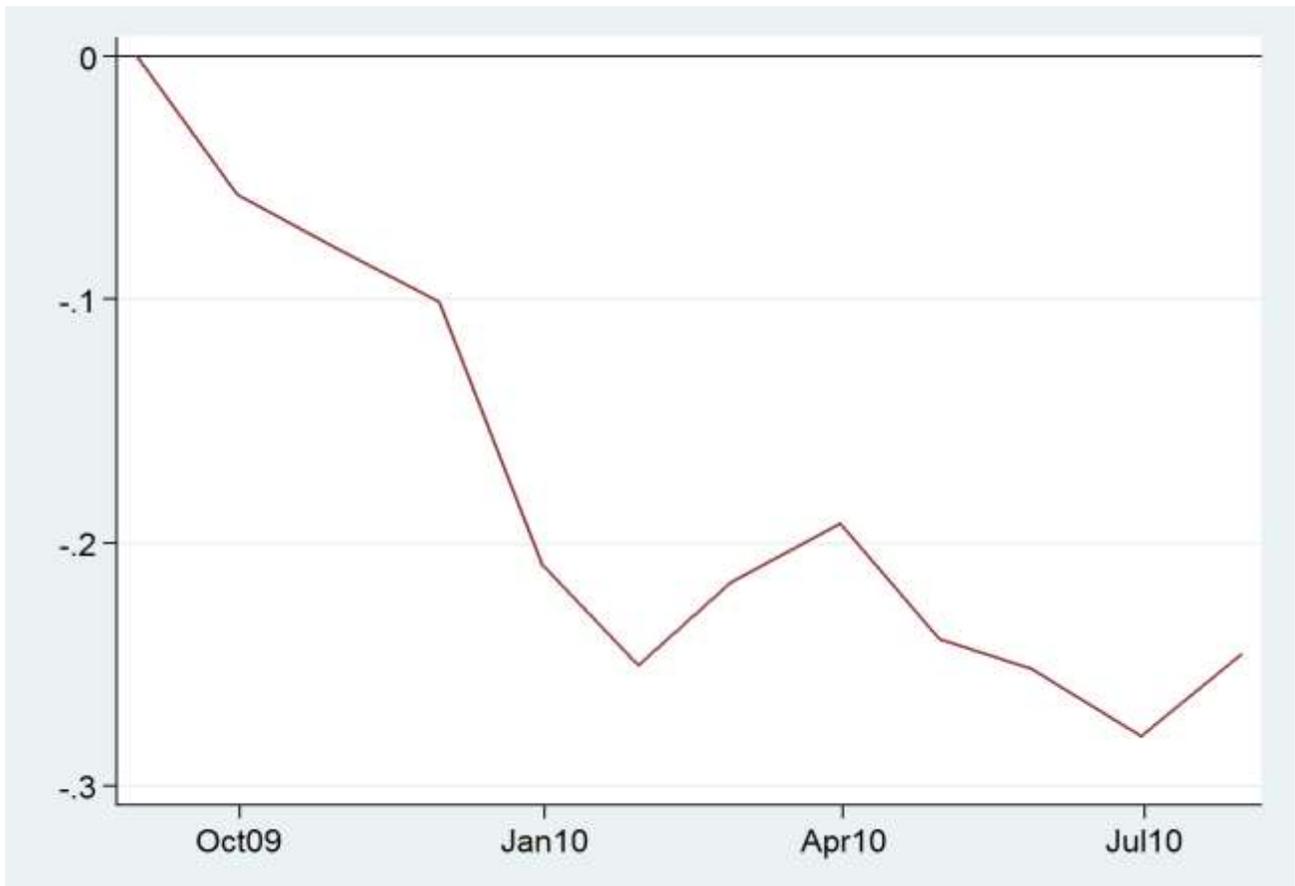
**Figure 2. Cumulative Returns for Pharmaceutical Stocks less All Stocks. 1963-1972**



Data show cumulative monthly returns for a portfolio of pharmaceutical stocks less returns on a market portfolio from July, 1963 through August, 1972. The portfolios are the same as in Figure 1, except that by 1972 Parke Davis had merged with Pfizer and Schering had merged with Plough to form Schering Plough.

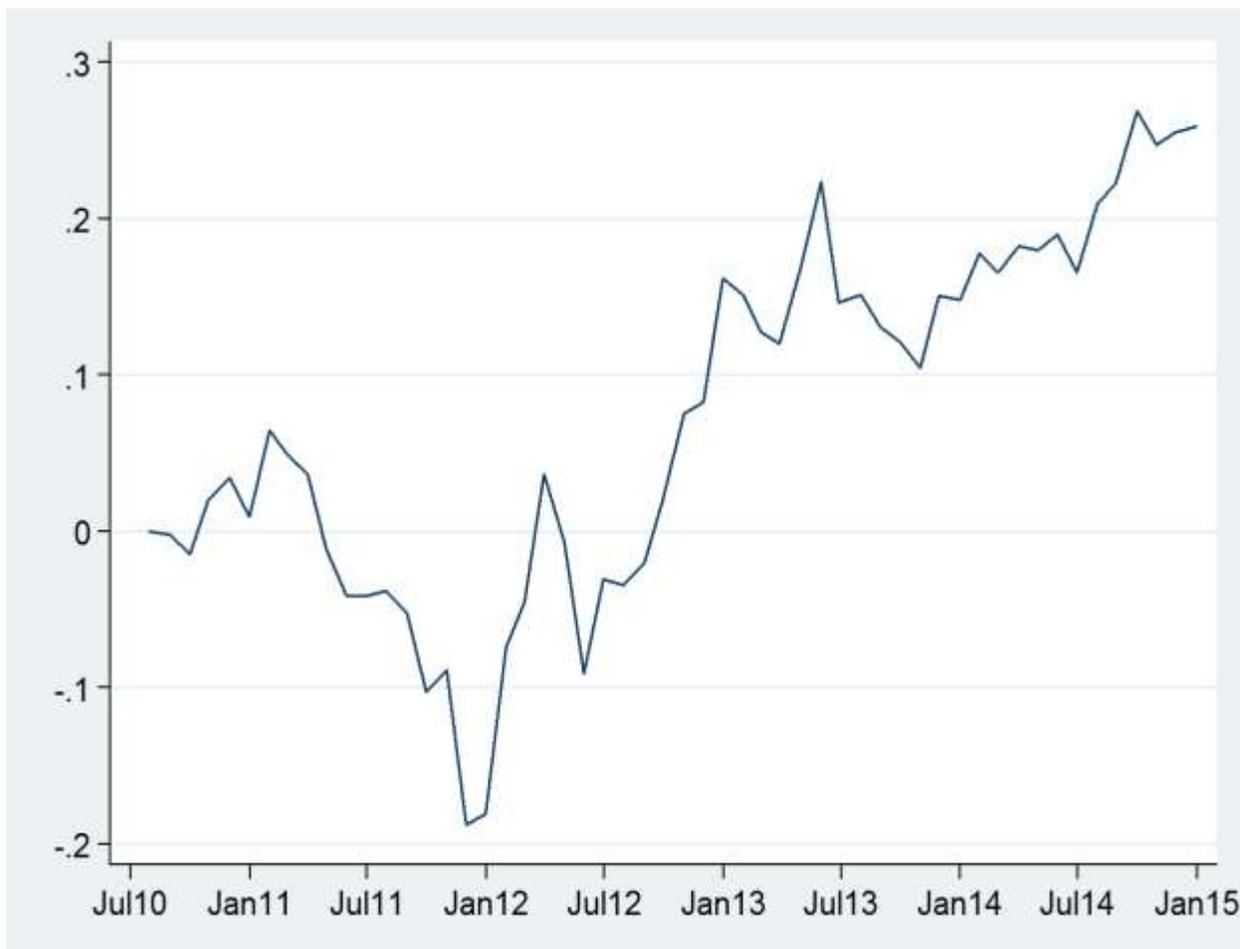
Stock prices are from Center for Research in Security Prices, University of Chicago Booth School.

**Figure 3. Cumulative Returns for GSIFI Banks less Large Non-SIFI Banks. 2009-2010**



GSIFI (globally systemically important financial institutions) as defined by the Financial Stability Board. Data are the cumulative return to a value weighted portfolio of the six GSIFI commercial banks less the return to a value weighted portfolio of non-SIFI large banks. The GSIFI banks are JP Morgan Chase, Bank of America, Citigroup, Wells Fargo, BNY Mellon and State Street. The non-SIFI banks are all listed banks with an initial market capitalization greater than \$1 billion but below the SIFI threshold of \$50 billion in assets. Cumulative returns are shown from August 2009, when hearings that eventually culminated in the Dodd Frank Act began, through August 2010, the month after the Act passed Congress.

Figure 4. Cumulative Returns for GSIFI Banks less Large Non-SIFI Banks. 2010- 2015



Cumulative differential return on the portfolios described in note to Figure 3 from July 2010, when the Dodd Frank Act passed Congress, until January 2015.