Unintended Legislative Inertia

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UNINTENDED LEGISLATIVE INERTIA

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Institutional and political forces create strong inertial pressures that make updating legislation a difficult task. As a result, laws often stagnate, leading to the continued existence of obsolete rules and policies that serve long-forgotten purposes. Recognizing this inertial power, legislatures over the last few decades have increasingly relied on a perceived solution—temporary legislation. In theory, this measure avoids inertia by requiring legislators to choose to extend a law deliberately.

This Article argues that temporary legislation is a double-edged sword. While some temporary laws ultimately expire, many perpetuate through cycles of extension and reauthorization. Temporary legislation often creates its own inertial force, leading to the unintended permanence of what was originally believed to be provisional. Using a case study from a large public subsidy adopted as a localized fix to a temporary problem, this Article demonstrates how the subsidy has inadvertently grown in scope and in size, creating its own inertial pathways that made its repeal exceedingly difficult.

Path-dependent dynamics of temporary legislation affect not only present-day policies, but also the ability of legislatures to resist status quo bias and bring about legal change. This Article concludes with normative insights on ways to utilize flexible rulemaking whilst circumventing legislative inaction. Careful design of expiring provisions that is aware of the inertial power of temporary legislation can effectively ensure that laws are kept or discarded given their merits, not by force of the past.

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I. INTRODUCTION

Scholars have long recognized the dangers of statutory stagnation. Powerful forces create inertia in our laws and statutes, leading to perverse and sometimes bizarre results, such as laws that criminalize the housing of a pirate or the mailing of a mongoose. Less amusing, but of deep economic and social import, are a host of dated tax, sanitary, and safety regulations meant to achieve long-forgotten goals. The inertial force of past legislation is explained by

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3 See, e.g., 26 U.S.C. §§ 5053(e), 5674(a) (2018) (prohibiting a person from brewing, tax-free, over a hundred gallons of beer for personal consumption); cf. Eliminating Unnecessary Tax Regulations, 84 Fed. Reg. 9231 (Mar. 14, 2019) (to be codified in scattered parts of 26 C.F.R.) (repealing nearly 300 duplicative and obsolete tax regulations dating back to 1942 following an executive order signed by then-President Trump to review existing regulations and to simplify the Tax Code).

4 Under 9 C.F.R. § 93.415 (2020), removing llama manure from a quarantine facility is strictly prohibited unless the llama who made the manure has been released.

5 Under 16 C.F.R. § 1202.4 (2020), it is a federal crime for a matchbook maker to distribute matchbooks that fail to comply with a minimum friction strip, a staple size, and certain cover requirements. Similarly, 36 C.F.R. § 520.4(g) (2020) prohibits bringing strollers and baby carriages into a zoo’s exhibit buildings and public restrooms.

6 See Larry Kramer, Rethinking Choice of Law, 90 COLUM. L. REV. 277, 336-38 (1990) (arguing for the need to subordinate obsolete laws that no longer reflect strong policies); Melia Robinson & Erin McDowell, The Most Ridiculous Law in Every State, BUS. INSIDER (June 23,
a variety of political and institutional considerations, including limited legislative resources, status quo bias, and partisan interests. Doubtlessly, the inertial pull of these forces is strong.

To counter legislative inertia, lawmakers have increasingly adopted self-terminating legislation. Examples used over the past few decades include zero-base budget laws, sunset clauses, extenders, temporary-effects laws, and experimental legislation. The common denominator of these legislative tools is
that they set an “expiration date” for legislation.\textsuperscript{13} The traditional view is that such measures counter inertia, as they make deliberation and intentional statutory action necessary to preserve legislation.

Public choice theorists argue that such measures serve an alternative, more sinister purpose.\textsuperscript{14} In their view, temporary legislation is a tool to extract rents from industry players.\textsuperscript{15} It requires interest groups to constantly seek the approval and favor


of legislators so as to not lose their support; indeed, there is some evidence to that effect.\textsuperscript{16}

However, both the standard narrative and public choice theory miss a large part of the picture. This Article argues that temporary legislation results in an inertial force of its own. By applying path dependence theory to case studies of temporary legislation, this Article demonstrates how temporary legislation can often inadvertently become permanent—not through intent or design, but through the inherent inertial force of such legislation. What public choice theorists miss, then, is the fact that so much temporary legislation expires\textsuperscript{17} or becomes permanent,\textsuperscript{18} in contradiction to the supposed interests of legislators to extract rents.

\textsuperscript{16} See Julie A. Roin, United They Stand, Divided They Fall: Public Choice Theory and the Tax Code, 74 CORNELL L. REV. 62, 63 (1988) (describing how public choice theory “explains why requiring a group of taxpayers to work together on a common tax minimization scheme is an effective barrier against the success of the scheme”); Kysar, supra note 15, at 365–66 (discussing the role of interest groups efforts in extending sunset provisions).

\textsuperscript{17} Some examples of temporary legislation that have expired include, but are not limited to, laws that date back to the Sedition Act of 1798, ch. 74, 1 Stat. 596 (expired 1801), which permitted the deportation, fine, or imprisonment of anyone deemed a threat or for publishing “false, scandalous and malicious writing” against the U.S. government. The Federal Assault Weapons Ban—which was added as a subsection of the Violent Crime Control and Law Enforcement Act of 1994, Pub. L. No. 103-322, 108 Stat. 1796, 1996–2000—prohibited the manufacture, for civilian use, of semi-automatic assault firearms with certain large capacity ammunition magazines; this ban expired on September 13, 2004. Several of the government surveillance portions in the USA PATRIOT ACT, Pub. L. No. 107-56, 115 Stat. 272, 295 (2001) expired in 2005 per the Act’s “sunset” provision and were not reauthorized until 2011. See PATRIOT Sunsets Extension Act of 2011, Pub. L. No. 112-14, 125 Stat. 216 (extending the date of the sunset provision). The surveillance portion that lapsed on June 1, 2015 was restored in the USA FREEDOM Act of 2015, Pub. L. No. 114-23, 129 Stat. 268, 300, until December 15, 2019—but it has recently expired again. The Violence Against Women Act of 1994 (VAWA), Pub. L. No. 103-322, 108 Stat. 1796, 1902–24, was signed into law by then-President Bill Clinton in 1994 and provided government funding to battle and prosecute violent crimes against women. VAWA was reauthorized a number of times in 2000, 2013, and most recently 2019, but it expired in February 2019. See VAWA Faces Hard Road Ahead, Am. B. ASS’N (Aug. 27, 2020), https://www.americanbar.org/advocacy/governmental_legislative_work/publications/washingtonletter/august_2020_wl/vawa-update-0820wl/ (outlining VAWA’s history).

\textsuperscript{18} See, for example, the Orphan Drug Tax Credit program—a temporary program enacted in 1983 that ultimately became permanent in 1997—which provides subsidies to orphan-status drugs and biologics that are intended to treat rare diseases that affect fewer than 200,000 people in the United States. Orphan Drug Act, Pub. L. No. 97-414, 96 Stat. 2049, 2053–56 (1983) (codified as amended at 26 U.S.C. § 45C (2018)). The Tax Cuts and Jobs Act
Understanding the inertial power of temporary legislation is important in its own right. Yet, this Article also offers some first steps in identifying elements of the utmost importance to the design of optimal policy today and permanence of temporary legislation. By recognizing these circumstances, policymakers can better identify which temporary measures are more likely to become irremovable fixtures and which will be amenable to future change.

This Article unfolds in four parts. Part II explores the rise of temporary legislation. Legislators use this statutory mechanism to battle inertia by requiring frequent reassessment of existing law. Such reexamination allows legislatures to revisit new information, fine-tune policymaking errors, respond to changes in social or technological circumstances, and rescind ineffective rules. Some also believe that temporary legislation increases government oversight by requiring the reevaluation of policies and programs and by allowing legislators to collect data before fully committing to a permanent new policy. Alas, as this Part will demonstrate, in some circumstances temporary legislation—a tool meant to curb inertia—may inadvertently create its own inertial force.

Part III lays out the elements of path dependence theory that go well beyond the maxim that “history matters” or that our past shapes our future. In economics and the social sciences, path dependence theory categorically focuses on processes of change. It attributes historical sequences to institutional patterns, increasing
returns dispositions, and deterministic properties. Identifying path dependence, therefore, involves tracing a given result back to reactive sequences—chains of interrelated, unforeseen events. This Part concludes that the ability of decisionmakers to break a certain pattern, and divert from a chosen path, critically depends on the presence (or lack thereof) of specific dynamics.

Part IV draws insights from and applies path dependence theory using a case study to demonstrate the inertial force of temporary legislation. It focuses on a prominent measure in tax law—the "research credit" provision—that is a temporary measure meant to encourage research and experimentation using large financial incentives. Over several decades, this measure faced multiple lapses, renewals, and retroactive extensions until it finally became permanent. The path of the research credit followed "critical junctures" that provided opportunities for lawmakers to choose between two or more policy options. Once a selection was made, it created inherent inertial forces via "reactive causal sequences" of frequent cycles of extension and renewal with dynamics of "increasing returns" and "positive feedback" that helped entrench this policy and prevent diversion from the initial choice.

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22 See infra Part III.

23 In some cases, path-dependence studies focus on "deviant cases" that have rare or unique outcomes that could not have been predicted otherwise. See Mahoney, supra note 21, at 508 (describing several deviant cases that are commonly studied in path-dependence theory).


26 See infra Section III.A; see also Douglas J. Puffert, Path Dependence, Network Form, and Technological Change (arguing that path dependence can be influenced by a priori determinants such as technology, factor endowments, preferences, and institutions, as well as specific contingent events), in HISTORY MATTERS: ESSAYS ON ECONOMIC GROWTH, TECHNOLOGY, AND DEMOGRAPHIC CHANGE 63 (Timothy W. Guinnane et al. eds., 2004); Margaret Levi, A Model, a Method, and a Map: Rational Choice in Comparative and Historical Analysis ("[T]he branch on which a climber begins is the one she tends to follow."); in COMPARATIVE POLITICS: RATIONALITY, CULTURE, AND STRUCTURE 19, 28 (Mark Irving Lichbach & Alan S. Zuckerman eds., 1997).

27 See infra Part V; see also Mark J. Roe, Chaos and Evolution in Law and Economics, 109 HARV. L. REV. 641, 645-47 (1996) (pointing to the effectiveness and strength of the chosen pattern as determining the ability to break out of such pattern); Paul Pierson, Increasing Returns, Path Dependence, and the Study of Politics, 94 AM. POL. SCI. REV. 251, 252 (2000)
Thereafter, Part V reveals that non-profits and associations that organize the collective action of constituents (who benefit from the path) “self-reinforced” that choice (as well as their existence) and helped curb legal change or diversion from the path.28 With these elements present, the research credit, intended in 1981 to be a temporary four-year measure, has persisted to the present because the cost of switching to an alternative has become too high.29

What was meant to be a temporary measure to address a localized social issue is now the source of large and established subsidies. Today, almost 18,000 companies collectively receive over $12.5 billion through the research credit program.30 Whether this policy is effective is not the issue; rather, the main point is that such a large and consequential program arose due to unintended inertial forces created by legislation originally designed as a temporary fix.

This Article concludes with some suggestions regarding more effective ways to use temporary rulemaking whilst circumventing legislative inertia. Legal scholarship that incorporates path dependence theory can provide important insights on recent expiring legislation.31 It proposes adopting certain mechanisms and default rules to allow experimentation with expiring provisions while avoiding statutory constriction through inertia.

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28 See Pierson, supra note 27, at 260 (arguing that organizations have a strong tendency to persist due to self-reinforcing dynamics associated with collective action processes).

29 See Daryl Lim, Copyright Under Siege: An Economic Analysis of the Essential Facilities Doctrine and the Compulsory Licensing of Copyrighted Works, 17 ALB. L.J. SCI. & TECH. 481, 508 (2007) (describing the ability of increased switching costs to entrench customers); see also Listokin, supra note 9, at 530 (discussing high constitutional inertia due to the extremely high “transaction costs” of changing constitutional policy).

30 See SOI Tax Stats – Corporation Research Credit. IRS, https://www.irs.gov/statistics/soi-tax-stats-corporation-research-credit (last updated Sept. 10, 2020) (select Tax Year 2014 under ‘Table 1: Corporations Claiming a Credit, by Industrial Sector’).

31 For a list of current expiring provisions in the tax context, see STAFF OF THE JOINT COMM. ON TAXATION, JCX-1-20, LIST OF EXPIRING FEDERAL TAX PROVISIONS 2020-2029 (2020), https://www.jct.gov/publications.html?func=startdown&id=5240; see also Darla Mercado, These Three Tax Breaks for 2018 Are Still Up in the Air, CNBC (Feb. 6, 2019, 10:10 AM), https://www.cnbc.com/2019/02/06/congress-has-yet-to-approve-these-valuable-tax-breaks-for-2018.html (naming mortgage insurance, debt forgiveness of foreclosure, and tuition fees for higher education as temporary legislation that were up for renewal for the 2018 tax year).
Legislative inertia permeates many areas of the law. The staying power of past decisions can go well beyond present-day cost-benefit analyses. Path dependence theory serves as an important avenue to explain not only the destiny of a legislative route but also to potentially open new frontiers of legal research and point our attention to overlooked paths and sequences. Temporary legislation is not formed in a void; it is often created when critical national concerns exerted pressure on legislators to achieve economic or social outcomes. Yet, once these exigencies are removed, rules and procedures—as well as organizations that rely on their existence—may preserve and expand their paths to invite more participants and increase their returns. These path dynamics may lock in temporary measures initially designed to prevent legislative inertia and encourage change, creating unintended consequences and becoming rooted in our legal system.

II. LEGISLATIVE INERTIA

[Inertia], or innate force of matter, is a power of resisting, by which every body, as much as in it lies, endeavours to persevere in its present state, whether it be of rest, or of moving uniformly forward in a right line.

—Isaac Newton

In physical science, dormant objects and those that move in a straight line at a constant speed will continue resting or moving

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32 See, e.g., supra notes 1, 18, 29–31.
34 See Gersen, supra note 13, at 255–57 (providing examples of important social policies that came about as a result of temporary legislation).
unless a force interrupts them. In the legal context, inertia describes the preservation of the status quo. Continuity and evolution are both crucial to the stability of any legal system. Modern law has to be functional as well as responsive to financial and natural crises. Changing circumstances may render statutes inconsistent with new social or economic landscapes. Obsolescent laws prevent legislatures and courts from harmonizing legal rules with present-day conditions and the demands of shifting majorities. Given continuous demands for legal reform nowadays, it is worth asking: what causes legislative inertia? Why do various aspects of the law persist?

A. THE SOURCES OF LEGISLATIVE INERTIA

Many facets of inertia reflect a status quo bias that legislatures must overcome in order to enact a law. In their seminal manuscript, *The Legal Process*, Henry Hart and Albert Sacks
argued that lawmakers have a natural inclination to legislative inaction, as "other measures have a stronger claim on the limited time and energy of the [legislative] body." They recognized the perils of attributing "the weight of government inertia on the side of social inaction rather than of action." The U.S. government, in their opinion, has reached its highest state of development, and the vested interests that coincide with institutional inertia are already aiming toward achieving their settled objectives.

Taking a different view, Ronald Dworkin stated that legislative inertia stems from a lack of sufficient legislative time and priorities. Limited available time during legislative sessions, he claimed, prohibits legislatures from passing new laws, even though legislators acknowledge the need to do so. Similarly, this failure to move forward results in unsatisfactory consideration of existing statutes.

In his book, *A Common Law for the Age of Statutes*, Guido Calabresi professes that over the last half-century, the United States has gone, from a system governed by the common law, through a process of "statutorification" by which written laws came to dominate our legal system. One of the side effects of this process, he acknowledges, is that legislative inertia became a real and substantial phenomenon that threatens the integrity of the law. He declares that we cannot continue "liv[ing] with aging statutes and rely[ing] on time to render them totally irrelevant."

While updating legislation would be the optimal solution, Calabresi

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43 Id. at 875.
44 See id. at 115 ("[I]n American society all the forces both of vested interest and institutional inertia which are on the side of maintenance of existing institutions are on the side also of steadily more effective . . . achievement of their settled objectives.").
45 See Ronald Dworkin, *Political Judges and the Rule of Law* ("Legislative time is a scarce resource, to be allocated with some sense of political priorities . . . . "), in *Arguing About Law* 193, 200 (Aileen Kavanagh & John Oberdick eds., 2009).
46 See id. ("[I]t may well be that a judicial decision would be overruled if Parliament had time to pass every law it would like to pass, but will not be overruled because Parliament does not.").
47 CALABRESI, supra note 1, at 1. 5 ("[W]e have become a nation governed by written laws.").
48 See id. at 34 ("Legislative inertia . . . [is] a fact of life . . . . ").
49 Id. at 80.
acknowledges that the legislature is not always up to the task.\footnote{See id. at 62 (arguing that the legislature is not the proper "institution or body . . . [to] entrust[] with the job of determining which laws and rules need renovation or reconsideration"); Nagle, supra note 1, at 1286 (describing Calabresi’s approach to legislative inertia).}

Instead, he proposes a theory that empowers the judiciary to defeat legislative inertia by transferring the burden of upholding an obsolete law to those seeking to rely on it.\footnote{See CALABRESI, supra note 1, at 2, 82-90 (explaining his proposed common-law-based, burden-shifting approach to judicial review of statutes).} Namely, he asserts that courts have better interpretative tools than legislatures for reading statutes in a manner consistent with the current legal framework.\footnote{See id. at 5-6 (arguing that judicial activism is the result of the legislature's incapacity to keep laws up to date).}

Nevertheless, Calabresi also warns about making legislative changes too often.\footnote{See id. at 1 (arguing that, as statutes become the primary source of law, courts and legislatures have reacted to preserve continuity and change in the law).} He argues that if all statutes are reexamined de novo every so often, it will create imbalance in lawmaking.\footnote{See id. at 60 ("If all statutes and constitutions were to be reexamined de novo every so often, a totally new balance in lawmaking would be established . . . ").}

Too much change, he worries, will create a statutory modern world with little continuity.\footnote{See id. ("Instead of a system designed to achieve continuity and change in a modern, statutory world, we would have a system that gives us change and little continuity.").}

By the same token, Professor Daniel Farber has determined that legislative inertia is of "fundamental" importance.\footnote{See Daniel A. Farber, Statutory Interpretation and Legislative Supremacy, 78 GEO. L.J. 281, 308 (1989) (describing the benefits of legislative inertia).} He argues that in order to gain the benefits of stability, we must maintain some degree of "legislative inertia" in our system.\footnote{See id. ("[T]he agenda rules and institutional structures that create legislative inertia are themselves fundamental to the workings of legislatures. Without these constraints and constructs, legislatures would be plagued by instability and would be unable to function as deliberative bodies.") (footnote omitted)).}

Accordingly, he proposes that we include statutory inertia in our search for optimal legislative decisionmaking.\footnote{See id. ("It is not at all clear that a democratic system could function otherwise.").} Others reiterated this idea, claiming that we should stop treating legal inertia as a pathology reflecting democracy’s malfunction.\footnote{See, e.g., Waldron, supra note 1, at 1389 (asserting the significance of legislative inertia).}
partisan political dynamics for creating blind spots and blockages in the legislative process.\textsuperscript{60} Others have described legislative stagnation as deriving from the high costs of legislative change.\textsuperscript{61} Multiple levels of congressional approval create costs related to placing an item on the legislative agenda, learning about relevant issues, and reconciling different opinions on the optimal policy.\textsuperscript{62} Surmounting these obstacles and enacting change is not easy. It requires overcoming a presumption in favor of the existing state of affairs.\textsuperscript{63} Overcoming this status quo bias involves attending to competing considerations in a way that is more challenging than merely protecting the existing state of affairs.\textsuperscript{64} The degree of inertia in the legislative process is extensive, therefore, because impeding legislation is far less costly than passing it.\textsuperscript{65}

Commentators have identified two main categories of legislative inertia: priority-driven and coalition-driven.\textsuperscript{66} Priority-driven inertia arises from “the time-consuming nature of the law-making process” and the need to prioritize the number of changes the legislature can enact within a legislative session.\textsuperscript{67} Legislators have a packed agenda involving a variety of complex issues. Resolving these matters requires a large time commitment and policy expertise. Representatives who seek reelection must devote the majority of their time and energy to constituency service.\textsuperscript{68} This

\textsuperscript{60} See, e.g., Nagle, supra note 1, at 1282–83 (noting that legislative inertia can “block[] amendments that have no significant opposition”); Adler, supra note 1, at 472 (“The degree of inertia in the legislative process is substantial, and it is far easier to block legislation than to enact it.”).

\textsuperscript{61} Cf. Listokin, supra note 9, at 530 (discussing high constitutional inertia due to the extremely high “transaction costs” of changing constitutional policy).

\textsuperscript{62} See id. at 530–31 (discussing the costs of “multiple levels of [statutory] approval”).

\textsuperscript{63} See id. at 484 (“Policymaking . . . often involves the choice between a new policy and the status quo. Generally, new policies have higher variance in outcomes than existing policies.”).

\textsuperscript{64} See id. at 523 (discussing “status quo bias” as a barrier to new policies).

\textsuperscript{65} Adler, supra note 1, at 472; cf. also Neal E. Devins, Appropriations Redux: A Critical Look at the Fiscal Year 1988 Continuing Resolution, 1988 Duke L.J. 389, 389 n.1 (1988) (“Continuing resolutions are funding devices enacted whenever Congress is unable to pass one or more of the thirteen regular appropriation bills by the end of the budget cycle.”).


\textsuperscript{67} Id. at 2209–10.

\textsuperscript{68} See id. at 2210 (“Capacity constraints . . . will mean that there is little reason . . . for legislative majorities to give priority to rights-based claims which are advanced by a
leaves little time to devote to considering and leading major legislative change. Legislators and their aides often lack the expertise to resolve complicated questions and have only limited legislative time and resources. Moreover, legislators do not want to risk alienating more constituents than they befriend by opining on controversial questions. Their priorities are to support and, at the right times, to propose new legislation. This provides them with an institutional power of inertia by refusing to attend sooner to certain policy problems in need of legislative attention. This power is especially relevant in cases where legislators inherently cannot anticipate unintended consequences and future problems that may develop with the adoption of a proposed law.

Aside from exogenous factors that create priority-driven inertia, coalition-driven inertia involves internal political dynamics. The more cynical commentators claim that legislators deliberately choose not to make difficult policy decisions for political reasons. Coalition-driven forms of inertia arise due to the dynamics of relatively small minority, if those claims do not command strong majority support.

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69 See Richard Pierce, Institutional Aspects of Tort Reform, 73 CALIF. L. REV. 917, 919 (1985) (surveying the different reasons for legislative inertia).
70 See id. (noting representatives have limited time to be prepared and to ensure the interests of constituents are met).
71 Id.
72 See Maxwell L. Stearns, Standing Back from the Forest: Justiciability and Social Choice, 83 CALIF. L. REV. 1309, 1319 (1995) (“[L]egislatures are free not to decide issues presented to them for consideration in the form of bills. In other words, legislatures, unlike courts, have the institutional power of inertia.” (footnote omitted)).
73 See Kenneth Culp Davis, A New Approach to Delegation, 36 U. CHI. L. REV. 713, 720 (1969) (arguing that agency policymakers “must decide many major questions that could not have been anticipated at the time of the statutory enactment” because of lawmakers’ inability “to write meaningful standards that will be helpful in answering such major questions”);
Peter H. Aranson, Ernest Gellhorn & Glen O. Robinson, A Theory of Legislative Delegation, 68 CORNELL L. REV. 1, 23 (1982) (noting situations where Congress was unable “to anticipate the advent of a major structural innovation”).
74 See Dixon, supra note 66, at 2210 (“Coalition-driven forms of inertia will arise in the legislative process as a result of . . . the dynamics of competition between political parties.”).
75 See Pierce, supra note 69, at 919 (“More cynical observers claim that Congress chooses not to make hard policy decisions for political reasons.”).
The desire to appeal to a broader electoral base inherently promotes inertia by encouraging politicians to adopt a legislative agenda that does not divide party members. Accordingly, legislators push aside and assign low priority to legislative changes that do not enjoy strong majority support. Michael Perry claims that the “burden of legislative inertia” involves the difficult task “of capturing the attention of a sufficient number of legislators, of surviving various institutional hurdles (such as committee votes), [and] of winning the support of a majority of legislators” by those seeking either to enact or repeal a certain law.

Legislative inertia substantially limits statutory reform. It can block legislative change even if “no significant opposition” exists. For example, if a legal rule is up for reauthorization in the future, coalition- and priority-driven inertia can disincentivize legislative action. This Article next demonstrates that legislative inertia can develop in the context of temporary legislation when statutory reassessment frequently happens. It begins by reflecting on a number of explanations invoked for the adoption of temporary legislation instead of a permanent law or mere legislative inaction.

B. A REMEDY AND ITS UNINTENDED PATH

Temporary legislation has provisions that fix the expiration of the law or regulation within a predetermined period. Such provisions automatically repeal the legislation when it is no longer

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77 See Dixon, supra note 66, at 2210 (“If party members . . . are divided on an issue, this can mean that legislative party leaders have an interest in keeping an issue off the legislative agenda—even in the face of clear demands for legal change . . . .”).
80 Nagle, supra note 1, at 1282–83.
81 See id. at 1282 (“If a statute is coming up for reauthorization in three years, that can operate as a disincentive against acting to solve a particular problem now.”).
82 See supra notes 8–13 and accompanying text.
necessary because it has fulfilled its purpose or achieved its desired effect.\textsuperscript{83} Prior to its expiration, temporary legislation is subject to congressional evaluation to extend or repeal it.\textsuperscript{84} The following Section will describe how temporary legislation was initially viewed as a way to improve public administration, tackle excessive bureaucracy, reverse legislative inertia, manage emergencies, and lessen regulatory pressures. Thereafter, it will reveal how unintended consequences ensure that temporary legislation may not always deliver its goal.

1. Temporary Legislation and its Promise. The idea of temporary legislation is not new. Thomas Jefferson strongly promoted legislative dynamism by proposing that all statutes and constitutions should last no more than nineteen years.\textsuperscript{85} In the First Congress, James Madison proposed that the Impost Act, which imposed import taxes, should contain an expiration clause.\textsuperscript{86} In their eyes, excessive stagnation and obsolescence were ill-favored, and the government’s role was to balance competing concerns for continuity and change.\textsuperscript{87} American political scientist Theodore Lowi is considered the “father” of the temporary legislation movement in regulations, statutes, and agency rules.\textsuperscript{88} In his book \textit{The End of...}
Liberalism, he proposed enacting a “Tenure-of-Statutes Act” that would put a five- to ten-year termination date on all statutes that create federal administrative agencies. Lowi believed his reform proposal furthered “juridical democracy” and combatted “interest-group liberalism.” He proposed improving government efficiency and the integrity of laws by limiting the power that interest groups exerted over administrative agencies. Lowi suggested that a legislature should routinely obtain a renewed justification for laws as an agency’s termination date approached.

However, the idea of enacting expiring legislation was not the popular consensus. Instead, promoting stability and flexibility was prioritized through the practice of enacting statutes intended to persist indefinitely unless actively repealed. Expiring legislation thereafter emerged as a reaction to general discontent with unrestrained governmental growth, excessive bureaucracy, and massive public spending. The use of such legislation spiked during the early 1970s in response to the unprecedented growth in the number of administrative agencies and their powers. The mid-1970s saw a steep rise in the enactment of expiring legislation at

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90 Id. at 311 (denoting interest-group liberalism as a public philosophy that creates clientelism via the broad expansion of public programs such as the New Deal).
91 Id. at 309–13.
92 Id. at 309.
93 See Kysar, supra note 15, at 350–55 (describing the history of the sunset movement and noting that legislators in the 1970s who supported agency oversight did not necessarily back the idea of automatic expiration).
95 See James L. Sundquist, The Decline and Resurgence of Congress 329–30 (1981) (noting that sunset legislation was a widely supported method to force increased oversight); Kysar, supra note 15, at 353 (“[Lowi’s] ideas became very influential in the mid-to-late 1970s during a period of fiscal hardships and pervasive doubt about the efficacy of government programs.”).
the state level via laws that were passed in hopes of abolishing redundant programs and agencies.⁹⁶

Notably, scholars have often discussed expiring legislation in the context of legislative entrenchment as representing a mirror image of two different approaches.⁹⁷ Legislative entrenchment denotes "the enactment of either statutes or internal legislative rules that are binding against subsequent legislative action in the same form."⁹⁸ For example, an entrenching clause could require a supermajority to repeal a rule, which prevents a later legislature from rescinding the statute. In a similar manner, expiring legislation prohibits statutes from remaining in force when future legislatures do nothing or refuse to repeal it.⁹⁹ The anti-entrenchment doctrine—which holds that legislatures cannot make irreversible policies—supports temporary legislation as a mechanism to avert entrenchment.¹⁰⁰

Accordingly, lawmakers viewed temporary legislation as furthering the principle of separation of powers by limiting the legislative powers of Congress to shorter periods and mandating

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⁹⁶ See Kysar, supra note 15, at 354 ("By the early 1980s, thirty-five states had adopted broad sunset laws.").

⁹⁷ See Eric A. Posner & Adrian Vermeule, Legislative Entrenchment: A Reappraisal, 111 Yale L.J. 1665, 1655–96 (2002) (maintaining that entrenchment is the mirror image of expiring legislation, thus the anti-entrenchment doctrine is inconsistent with Congress’s undisputed authority to enact temporary laws). But see Listokin, supra note 9, at 535 (explaining, in contrast to Posner and Vermeule, "why entrenchment is barred while sunset clauses are legitimate from an economic perspective").

⁹⁸ Posner & Vermeule, supra note 97, at 1667; see also Newton v. Comm’rs, 100 U.S. 548, 559 (1879) ("Every succeeding legislature possesses the same jurisdiction and power with respect to them as its predecessors. The latter have the same power of repeal and modification which the former had of enactment, neither more nor less."); 1 William Blackstone, Commentaries *90 ("Acts of parliament derogatory from the power of subsequent parliaments bind not.").

⁹⁹ See Posner & Vermeule, supra note 97, at 1697 (discussing "a handful of congressionally enacted rules that attempt to control the courts’ interpretation of enactments by subsequent Congresses").

¹⁰⁰ See, e.g., John C. Roberts & Erwin Chemerinsky, Entrenchment of Ordinary Legislation: A Reply to Professors Posner and Vermeule, 91 Calif. L. Rev. 1773, 1784–85 (2003) ("A sunset clause frees future legislatures from being constrained even by the existence of a law. The new legislature in essence gets to decide de novo how to proceed. That is exactly the opposite of entrenchment, which restricts the ability of a future legislature to decide at all." (footnote omitted)).
reconsideration and reapproval.\textsuperscript{101} They used temporary legislation to curb legislative inertia by conferring a temporary and dynamic character to law.\textsuperscript{102} The sustained legitimacy of a rule or a program depends upon a succeeding legislative decision. Placing temporal limits and dispositions on a legal rule or agency curbs the duration of government powers and guarantees more frequent dialogue between a legislature and its constituents.\textsuperscript{103} By confirming that laws and rules will be either terminated or reevaluated, expiring provisions are viewed as improving political accountability and transparency.\textsuperscript{104} They can avert inertia and status quo bias by compelling reexamination of inefficient laws.\textsuperscript{105}

Harmonizing these ideas, expiring legislation has been used to restore legislative oversight. All statutes that change the legal status quo de facto shift the burden of inertia from the enacting legislature to future legislatures.\textsuperscript{106} The operation of temporary legislation dictates habitual reevaluation. These periodic determinations pressure future legislatures to decide by a specific date whether a particular rule, program, or agency should persist.\textsuperscript{107} These evaluations should look into the effects of the legislation and

\textsuperscript{101} See Richard C. Kearney, Sunset: A Survey and Analysis of the State Experience, 50 PUB. ADMIN. REV. 49, 55–56 (1990) (studying the extent to which states actively utilize and review expiring legislation and suggesting "[t]he utility of Sunset as a legislative oversight mechanism”).

\textsuperscript{102} See Doran, supra note 11, at 293 (noting the responsibility of lawmakers to consider how fiscal policy will affect those in the future, but also that “we have no good answers”).

\textsuperscript{103} Cf. Gersen, supra note 13, at 298 (“The [temporary] legislative form produces both informational and distributive benefits, which affect the selection of optimal public policy and the distribution of authority in government.”).

\textsuperscript{104} See Davis, supra note 20, at 406 (concluding that accountability is improved in laws with expiring provisions).

\textsuperscript{105} See, e.g., supra note 17 (outlining the assault weapon ban, the Violence Against Women Act, and the government surveillance portions of the USA PATRIOT ACT as examples of temporary legislation that expired and were not reauthorized); see also Listokin, supra note 9, at 551 (noting that expiring provisions can prevent inertia in inefficient corporate contract provisions).

\textsuperscript{106} See Posner & Vermeule, supra note 97, at 1697 (comparing temporary legislation and the anti-entrenchment doctrine); Gersen, supra note 13, at 262–63 (discussing temporary legislation transaction costs and their allocation between current and future legislatures).

\textsuperscript{107} See Mark D. Young, A Test of Federal Sunset: Congressional Reauthorization of the Commodity Futures Trading Commission, 27 EMORY L.J. 853, 854 (1978) (“Sunset is the popular term for a statutory method of forcing a legislature to make a periodic determination whether to allow a particular program or agency to continue.”).
whether its objectives are being met efficiently. Those requesting an extension to avoid a technical renewal process bear the burden of proof to renew the legislation post-expiration. Consequently, temporary legislation helps balance the need to adapt to rapidly changing conditions and to maintain the proper legislative oversight.

Temporary legislation can also be used to modernize the law by updating obsolete laws or by eradicating redundant ones. Social practices and perceptions change over time, and what was considered unacceptable in the past may be commonly acknowledged today. For example, federal criminal laws still prohibit shooting a fish from an airplane, selling Swiss cheese with too few holes, and consulting with a pirate. Temporary legislation can help maintain the balance between continuity and change while avoiding errors and obsolescence via reexamination. Laws with expiring provisions prevent a past majority from perpetuating its dominion by shifting the power to those who oppose those laws and requiring legislative action, rather than inaction, to maintain them. Expiring legislation thereby imposes fiscal and political costs on future legislatures seeking to preserve the consequences of the earlier acts. It places the burden of legislative action “on those who wish to retain” a legal rule “rather than on

108 See supra note 2 (referring to various sources of over 800 obsolete rules and regulations that criminalize obscure behavior and are currently still in effect).


110 A Crime a Day (@CrimeADay), TWITTER (Feb. 15, 2016, 8:47 PM), https://twitter.com/CrimeADay/status/699409673615712256 (citing 21 U.S.C. §§ 331, 333, 343(g) and 21 C.F.R. § 133.195(a)(1)).


112 See Nathan Cortez, Regulating Disruptive Innovation, 29 BERKELEY TECH. L.J. 175, 219 (2014) ("[Temporary legislation] decrease[s] the costs of premature or incorrect regulation by time-limiting the damage they can inflict.").

113 See CALABRESI, supra note 1, at 61 ("It . . . deprives a past majority of the benefit of inertia and gives it to those who object to the laws.").
those who wish to modify or destroy it.”\textsuperscript{114} That way, inertial forces might not “serve the dead hand of the past.”\textsuperscript{115}

Professor Yair Listokin views the practice of expiring provisions as Congress recognizing that greater flexibility is needed than is the norm in that policy area.\textsuperscript{116} On the other hand, when greater stability is needed, ordinary statutes seem to achieve that result.\textsuperscript{117} According to Listokin, all policies are, in a way, temporary because new policies replace them.\textsuperscript{118} Expiring legislation merely decreases \textit{ex ante} the cost of changing policies by reversing the law by default.\textsuperscript{119} Temporary laws make policies more reversible in the search for optimal legislation. Listokin views them as “unambiguously positive,” as they enhance efficient policymaking while justifying the adoption of policies with negative expected value.\textsuperscript{120} In his opinion, temporary legislation should be encouraged and used more to allow lawmakers to reduce legislative costs, gain practical knowledge, and learn about the benefits of a bill before committing to irreversible costs.\textsuperscript{121} Legislators may be more inclined to adopt temporary legislation and gather more evidence on risks and effects during the interim period between enactment and expiration before committing to a permanent new policy.\textsuperscript{122}

\textsuperscript{114}Id. at 60.

\textsuperscript{115}Id. at 60, 62 (noting that the expiring legislation mechanism does not guarantee anachronistic laws will not get reenacted because “[t]ime does not serve as a good indicator of age” and noting that “[i]t does not distinguish sufficiently between those [legal rules] in need of reconsideration because they have become anachronistic and those that are not).

\textsuperscript{116}Listokin, supra note 9, at 536.

\textsuperscript{117}See Posner & Vermeule, supra note 97, at 1672 (“The ‘default’—that statutes persist until repealed—creates a compromise between stability and flexibility, but this balance is more appropriate for some policy areas than others. Indeed, Congress recognizes as much when it provides certain statutes with sunset provisions, reflecting the view that greater flexibility than the norm is needed in that policy area.”).

\textsuperscript{118}See Listokin, supra note 9, at 535 (“In some sense, almost all policies have sunset clauses—policies automatically lapse when new policies on the same subject are instituted.”).

\textsuperscript{119}See id. (“Sunset clauses therefore enhance the reversibility of policies.”).

\textsuperscript{120}Id. at 536 (“Suppose that there are multiple policies that should be tried in a given order under the optimal search approach. Passing each of these policies in succession would be costly.... These costs may well prevent policymakers from choosing policies according to the optimal search approach’s prescriptions.”).

\textsuperscript{121}Id.

\textsuperscript{122}See id. at 533 (discussing the advantage of temporary legislation in the optimal legislative search process); see also Gersen, supra note 13, at 248 (noting the information benefits and error costs saved via temporary legislation).
A prominent illustration of this view is the use of temporary legislation to regulate crises. Wars, natural disasters, and threats to public order are exigencies that require swift lawmaking. The most notable type of temporary legislation in such circumstances is "emergency legislation."\textsuperscript{123} Emergencies tend to be temporary and thus necessitate measures that terminate when the exigency ends. To guarantee the discontinuance of an exceptional rule, temporary legislation is used to prevent normalization of a state of emergency and to enable legislatures to return to normalcy.\textsuperscript{124} Accordingly, scholarly literature has viewed the use of temporary legislation as a good compromise during the suspension of constitutional protections in light of severe emergencies.\textsuperscript{125} It provides a form of legislative oversight of emergency powers, restrains extraordinary measures from being standardized, and contributes to building consensus around potentially controversial measures.

Counterterrorism legislation is a prominent case study of such temporary legislation. In counterterrorism legislation, an inevitable tension emerges between democratic process and prompt response to emergencies.\textsuperscript{126} In times of grave national peril, the government tends to concentrate authority and power to gain control of the situation.\textsuperscript{127} The government may limit fundamental rights guarantees and enact possibly extreme measures to protect citizens against perceived severe threats.\textsuperscript{128} Temporary emergency

\textsuperscript{123} Bruce Ackerman, \textit{The Emergency Constitution}, 113 YALE L.J. 1029, 1058 (2004).

\textsuperscript{124} See id. at 1037, 1047 (arguing temporary legislation is a good solution to the tension between the state of emergency and individual constitutional rights); cf. Oren Gross, \textit{Chaos and Rules: Should Responses to Violent Crises Always Be Constitutional?}, 112 YALE L.J. 1011, 1090 (2003) (noting that emergency legislation may become "normalized and made routine" and claiming that temporary legislation is not an effective rule to deal with emergencies).

\textsuperscript{125} See William N. Eskridge, Jr. & John Ferejohn, \textit{The Article I, Section 7 Game}, 80 GEO. L.J. 523, 529-32 (1992) (maintaining that temporary legislation provides a good outlet for political compromise).

\textsuperscript{126} Cf. Ackerman, \textit{supra} note 123, at 1039 ("Terrorist threats do not trigger the existential rationale, but require the articulation of a different framework for emergency power.").


\textsuperscript{128} See Gross, \textit{supra} note 124, at 1023 ("[T]here may be circumstances where the appropriate method of tackling grave dangers and threats entails going outside the constitutional order, at times even violating otherwise accepted constitutional principles, rules, and norms."
legislation provides a safeguard and may resolve some of this tension. Emergency legislation typically expires after a specified date unless the government renews the legislation or replaces it with new laws through the normal legislative process. In the aftermath of the September 11th terrorist attacks, there has been a huge increase in the use of temporary legislation to tackle international terrorism. The USA PATRIOT ACT was passed swiftly and contained many expiring provisions that supposedly limited the Act’s impact on constitutional rights. This temporary legislation provided a mechanism to limit the duration of a hastily adopted law through extraordinary delegation to the executive branch, to deliver opportunities for gathering empirical data, and to conduct policy reassessment after a set period.

Achieving consensus around contentious legislation is not easy. Alienated lawmakers and political resistance create high hurdles to ensure continuity of legal regimes. Temporary legislation provides opportunities for political haggling and reaching consensus

129 See Ackerman, supra note 123, at 1045 (“Bad legal structures will channel temporary needs for reassurance into permanent restrictions on liberty; good structures will channel them into temporary states of emergency, without permanent damage to fundamental freedoms.”).


131 See Emily Berman, The Paradox of Counterterrorism Sunset Provisions, 81 FORDHAM L. REV. 1777, 1790 (2013) (arguing that the high expectations for post-9/11 counterterrorism temporary legislation have not been borne out in terms of results).


133 See Berman, supra note 131, at 1824 (describing the enactment of the USA PATRIOT ACT and noting that the House agreed to vote on the bill “on the condition that it would be temporary legislation”); John E. Finn, Sunset Clauses and Democratic Deliberation: Assessing the Significance of Sunset Provisions in Antiterrorism Legislation, 48 COLUM. J. TRANSNAT’L L. 442, 485 (2010) (reviewing the enactment of the USA PATRIOT ACT, stating that temporary legislation “appear[es] when there are concerns about the potential abuse of newly adopted powers and a corresponding desire for legislative oversight”).

among legislators fearing the potential long-term negative effects of certain laws. Representatives who oppose a particular law will be more amenable to passing “erase and rewind” laws that provide some default assurance that the law will expire and reinstate the previous status quo. To conclude, temporary legislation is instrumental in reaching political compromise, facilitating experimentation, gathering information, and assessing risk.

2. Criticism and Increased Inertia. In the past few years, academics have criticized temporary legislation. They have condemned the routine extension of temporary legislation without meaningful evaluation. Instead of expiring after its designated date, temporary legislation more frequently is extended and expanded numerous times. Scholars have argued that the number of expiring provisions is too excessive and that they are counterproductive, create a disproportional review burden, and increase statutory uncertainty. Temporary legislation has been viewed by these scholars as serving primarily as a mechanism to pressure opponents of a controversial bill to vote in favor of a temporary version. Others have described these laws as

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135 See id. at 257 (discussing coalition building for statutes lacking overwhelming support).
137 See, e.g., supra note 15 and accompanying text.
138 For example, The Violence Against Women Act of 1994 has been extended three times and is currently pending reauthorization. See supra note 17; see also Yin, supra note 11, at 232–33 (reviewing the history of some temporary tax legislation and its repeated extension); Rebecca M. Kysar, Lasting Legislation, 159 U. Pa. L. Rev. 1007, 1016 (2011) (“Congress renew the vast majority of [tax] extenders upon the sunset date or shortly thereafter on a retroactive basis.”).
139 See Kysar, supra note 15, at 369, 396 (discussing negative consequences of temporary tax legislation).
140 See Rebecca M. Kysar, Dynamic Legislation, 167 U. Pa. L. Rev. 809, 827 (2019) (“The uncertainty they create disrupts the planning activities of public and private actors, increasing compliance costs and distorting investment decisions.”); Berman, supra note 131, at 1824 (“Compromises are therefore easier to reach for legislation with a sunset than for long-term legislation.”). But see Jacob E. Gersen & Eric A. Posner, Timing Rules and Legal Institutions, 121 Harv. L. Rev. 543, 562 (2007) (“Sunset clauses, providing for automatic repeal of the statute, sometimes indicate that Congress is uncertain whether a statute will be beneficial.”).
“democracy snooze buttons.” Instead of countering legislative obsolescence, temporary legislation postpones the decisions to a later date.

Expiring legislation has also been described as inefficient, expensive, and contributing to standardizing extraordinary measures. Many expiring laws have been reauthorized numerous times so as to have the effect of permanency. The repeated extensions of counterterrorism and fiscal legislation are classic examples of temporary laws that became entrenched and that now receive minimal reexamination. Calabresi warned that without substantive review, temporary legislation will “defeat itself.”

Legislators can create legislative procedures (such as acts extending
numerous sunset provisions in bulk) that treat the periodic reexamination as a mere formality.\textsuperscript{147}

Several theories of democracy highlight the significance of deliberation by legislators and citizens in the political process, rather than emphasizing the mere aggregation of preferences.\textsuperscript{148} Deliberative democracy is important because preferences change over time. The central problems of democratic government, as pointed out by the Founders, were the influence of factions (interest groups) and the self-interested incentives of representatives during congressional deliberation.\textsuperscript{149} Accordingly, scholars viewed an integral part of defending democracy to be opposing political interests by rebuking the influence of technocratic elites on legislators.\textsuperscript{150} Indeed, scholars have described the interaction between legislators and interest groups around expiring legislation as a rent-extracting mechanism.\textsuperscript{151} Using public choice theory, experts have argued that politicians and special interest groups began using temporary legislation as a “guise” in order to pass bills that otherwise would not obtain sufficient support.\textsuperscript{152}

\textsuperscript{147}See id. at 61 (“[I]t would be but a short step to a legislative procedure that would treat the periodic reexamination or reenactment as a mere form.”).

\textsuperscript{148}See Posner & Vermeule, supra note 97, at 1692 (“Laws do not (or should not) simply aggregate preferences; they should emerge from a deliberative process involving citizens and legislators, in which preferences change in response to argument and experience.”).

\textsuperscript{149}See THE FEDERALIST NO. 51, at 324 (James Madison) (Clinton Rossiter ed., 1961) (describing how “the multiplicity of interests” and “the multiplicity of sects” can prevent the concentration of power); see also Cass R. Sunstein, Interest Groups in American Public Law: 38 Stan. L. Rev. 29, 43–45 (1985) (providing a thorough account of the Madisonian ideas regarding the influence of factions).

\textsuperscript{150}See DANIEL A. FARBER & PHILIP P. FRICKEY, LAW AND PUBLIC CHOICE: A CRITICAL INTRODUCTION 10–11 (1991) (expressing concern for the influence of political interest groups on legislators in light of Madisonian ideas).

\textsuperscript{151}See John W. Lee & W. Eugene Seago, Policy Entrepreneurship, Public Choice, and Symbolic Reform Analysis of Section 198, the Brownfields Tax Incentive: Carrot or Stick or Just Never Mind?, 26 WM. & MARY ENVTL. L. & POL’Y REV. 613, 636 (2002) (noting temporary laws increase legislators’ rent-seeking opportunities). For examples of the rent-extracting issues associated with sunsets, see Kysar, supra note 15, at 339–40; Kysar, supra note 138, at 1043; Viswanathan, supra note 13, at 680; cf. Gersen, supra note 13, at 285 (“Temporary measures could produce less rent seeking in the aggregate because the prize for winning a statute is less valuable.”).

\textsuperscript{152}See Viswanathan, supra note 13, at 658 (arguing that sunsets result from “political maneuvering” to exact “permanent legislation under the guise of an ostensible expiration date”); Edward D. Kleinbard, The Congress Within the Congress: How Tax Expenditures
In the field of tax law, Professor Rebecca Kysar noted that many sunset clauses were added to the tax code during the George W. Bush Administration as gadgets to underestimate the real revenue cost of legislation and fit it within budget constraints. Because the estimation of revenue costs of permanent tax provisions is too high for Congress to pass them, temporary provisions are used to bypass that issue by taking into account only the revenue costs during the period up until expiration. Alas, the intention remains to perpetuate this temporary legislation, thus indirectly circumventing budget constraints.

The consensus-gathering feature of expiring legislation has turned into one of its central points of criticism. Evaluations of legislation close to the expiration date became too cumbersome, making the renewal process autogenetic and technical. Some scholars have viewed temporary legislation as a political shortcut to the traditional congressional legislative process and as delaying

Distort Our Budget and Our Political Process, 36 OHIO N.U. L. REV. 1, 24 (2010) ("I do not agree that temporary-effect legislation will reduce the present value of tax subsidies to legislators angling for campaign contributions when viewed through the prism of 'interest-group theory'.").

153 See Kysar, supra note 140, at 853 (explaining how the Bush tax cuts were a "fiscal illusion" because they "would likely be renewed without full accounting of their costs"); Kysar, supra note 138, at 1040–41 (noting how legislators analyzed costs of legislation outside of the budget window when considering the Bush tax cuts).

154 But see Kysar, supra note 138, at 1041 ("[I]nterest groups, constituents, and political ideology may spur congressional members to heed the full costs of legislation and to downplay misleading official costs—thus reconciling, to an extent, the accounting differences between temporary and lasting legislation.").

155 See Kysar, supra note 140, at 854 ("[B]udget rules that Congress created were later circumvented when Congress found the pressure to deliver legislative benefits too great."); Kysar, supra note 138, at 1019 ("[R]econciliation . . . also induces legislators to use sunset provisions.").

156 See Posner & Vermeule, supra note 97, at 1692 (explaining how sunset provisions only work when the current Congress can achieve consensus); see also Chris Mooney, A Short History of Sunsets, LEGAL AFF. (Jan.–Feb. 2004), https://www.legalaffairs.org/issues/January-February-2004/story_mooney_janfeb04.msp (criticizing temporary legislation for becoming "a clever political trap").

157 See Kysar, supra note 138, at 1066 (explaining some difficulties with renewal of temporary legislation); Mooney, supra note 156 (providing an example of how sunset provisions can trap later legislators into renewal).
discussions to the moment of expiration. These repeated extensions with minimal or no reevaluation effectively have increased legislative inertia. But why has expiring legislation maintained such strong institutional bias in favor of the temporary status quo?

While discussing entrenching statutes, Posner and Vermeule commented in passing that earlier legislatures always have greater power than later ones by virtue of making policy choices that de facto become entrenched through path dependence and inertia. The next Part will delve into the theoretical underpinnings and dynamic forces encompassing temporary legislation that create conditions for path dependency and inertia.

III. PATH DEPENDENCE THEORY

Inertia is the final stage in a path dependent sequence, namely a situation of "lock-in." Yet, path dependence theory entails more dynamics than just a structural status quo. First, one must understand this theoretical framework before applying it to the legal context and, specifically, to temporary legislation.

Previous choices can influence our current selections, regardless of whether conditions today still warrant them. The QWERTY
typewriter is cited as one of the most notable examples of both path dependence and network effects.\textsuperscript{164} Created in 1873, the QWERTY keyboard layout has been so entrenched by users over the years that it continues to dominate the market despite the existence of better layouts.\textsuperscript{165} This example illustrates a path that has become so entrenched that the cost of switching to a different route has become prohibitive.

Scholars have used path dependence theory to explain unique present-day phenomena.\textsuperscript{166} Economist Paul David argued that understanding the rationale (or lack thereof) for the world around us is difficult unless we investigate how we arrived at this state.\textsuperscript{167} W. Brian Arthur, who developed the modern economic approach to path dependence, has hypothesized that the theory encompasses knowledge-based industries with strong externalities.\textsuperscript{168} He describes path dependence as "lock-in through learning" but claims that small differences in early patterns or "historical events" may result in path divergence and will often produce large variations in final outcomes.\textsuperscript{169}

Identifying path dependence involves tracing a given result back through a chain of chronicled events that are unforeseen and cannot


\textsuperscript{165} See supra note 164, at 333–34 (describing the history of the QWERTY typewriter and other options available throughout the years and why those options were not adopted).

\textsuperscript{166} See generally CHARLES E. WELLER, THE EARLY HISTORY OF THE TYPEWRITER (1918).

\textsuperscript{167} See, e.g., Roe, supra note 27, at 644–46 (using the American corporate structure's history to argue that the possibility of breaking out of a lock-in situation lies in the overall efficiency and strength of the pattern created in the past); Lim, supra note 29, at 508 ("Consumers become 'locked in' to the product because of switching costs associated with moving from one network to another."); see also Maximo Langer, The Rise of Managerial Judging in International Criminal Law, 53 AM. J. COMP. L. 835, 908 n.369 (2005) ("Path dependence processes may lock institutions into alternatives that are less efficient or optimal than others.").

\textsuperscript{168} See W. Brian Arthur, Competing Technologies, Increasing Returns, and Lock-In by Historical Events, 99 ECON. J. 116, 126 (1989) (describing, for instance, the path dependence of the nuclear industry).

\textsuperscript{169} Id. at 126, 128.
be classified solely based on prior historical conditions. Some of those cases have unique and unpredictable outcomes. The following provides some basic definitions of the various elements of path dependence along with clarifying illustrations. The scholarship on path dependence recognizes several dominant dynamics that contribute to the conservation of a route: critical junctures, reactive sequences, self-reinforcement, increasing returns, positive feedback, and lock-in.

A. REACTIVE SEQUENCES AND CRITICAL JUNCTURES

Does the order and correlation between historical events matter to the creation of the path? Economist Douglas Puffert claims a notable characteristic of a path-dependent process is the incidence of reactive sequences. He states that a process of economic allocation is considered path dependent when the sequence of allocations relies “not only on fundamental, a priori determinants . . . but also on particular contingent events.”

170 For example, in the Polya urn experiment, two balls—one red and one black—were placed in a large urn. The experiment proceeded by removing one ball and returning it to the urn accompanied by an additional ball of the same color. This process was repeated until the urn was full. The experiment demonstrated that an early draw, although random, had an increasing effect on the final result. See Mahoney, supra note 21, at 510–11 (describing the Polya urn experiment).

171 See, e.g., Greg Hill, History, Necessity, and Rational Choice Theory, 9 RATIONALITY & SOCY 189, 198–200 (1997) (describing an experiment with a “Polya coin” which shows the effects initial outcomes have on latter ones).


173 See Puffert, supra note 26, at 63 (discussing how economic allocation is determined by both initial factors and subsequent contingent events); Douglas Puffert, Path Dependence, EH.NET, https://eh.net/?s=path-dependence (last visited Mar. 12, 2021) (further describing path dependency and the effect of subsequent contingent events). Page distinguished between path dependency and phat dependency. Page, supra note 172, at 89. He claimed that, in a phat-dependent process, the order of events does not matter. Id. He exemplified the Polya Process as being phat-dependent and not path-dependent because, in that experiment, the order in which balls are taken out of the urn does not matter. See id. at 91 (“[O]utcomes in the . . . Polya Process do not depend on the order of past events. They only depend on the distribution over those events. Put in the formal language of this paper: the Polya Process is phat-dependent but not path-dependent.”).

174 Puffert, supra note 26, at 63. These determinants include “technology, factor endowments, preferences, and institutions.” Id.
Reactive sequences are series of causally connected events that are “reactive,” as each occurrence is partly “a reaction to temporally antecedent events.” Accordingly, each event is “dependent” on prior steps or occurrences to form the path of an outcome. The difference between a reactive sequence with observed path-dependent trajectory and a simple chain of causally connected events lies in the historical, critical juncture that set the chain in motion. In a reactive sequence, early significant events trigger other events, not by repeating a given pattern, but by initiating a series of firmly connected reactions and counterreactions. How can we observe a chain of interconnected occurrences in the lawmaking context?

The legislative process encompasses several reactive sequences. For example, representatives sponsor a legislative proposal and then the bill is assigned to a committee for study. After approval by the committee, the bill is put to a vote and, if passed by a majority of the House, moves to the Senate. In the Senate, the bill is assigned to another committee, voted on by that committee and, if passed, prompts the creation of a conference committee of House and Senate representatives, which reconciles differences between the two versions of the bill. The reconciled bill is brought for final approval at the House and Senate and for presentation. The President then has ten days to sign or veto the enrolled bill. Other than executive orders, the President cannot sign a bill into effect if

175 Mahoney, supra note 21, at 509.
176 Id. at 510.
177 See id. (arguing path-dependent processes must have properties of contingency marked by a process of inherent sequentiality).
178 See Paul Pierson, Not Just What, but When: Timing and Sequence in Political Processes, 14 STUD. AM. POL. DEV. 72, 85 (2000) (claiming that initial disturbances are crucial because they trigger “action and reaction [that] shift the system in a new direction”).
180 Id. at 27-38.
181 Id. at 42-45.
182 Id. at 50.
the first event—the proposal to enact it—has not occurred. The presidential veto or signature into law is thus highly dependent on the success of the preceding stages. Every occurrence in this reactive sequence is both responsive to previous events and the cause of subsequent actions. Early incidences in the sequence matter because a small change can significantly affect how the sequence unfolds. For example, if the vote on the floor fails, the rule might be directed to congressional committees for further deliberation, or it could be abandoned altogether. Temporary legislation reinforces these observations as each extension is contingent upon the expiration of the previous one. Moreover, extensions of provisions scheduled to expire are often "reactive" because such events are, to a certain degree, unforeseen—especially during periods of political divide or major legal reform. Yet, not all temporary legislation is inevitably path dependent.

Spotting reactive sequences is not enough to identify path dependence. Another important element in the formation of the entrenched route is the existence of critical junctures. Critical junctures are moments during which a specific arrangement is adopted from among at least two or more alternatives. These crossroads are "critical" because once a specific path is chosen, it is costly and difficult to return to the initial point when other alternatives were available.

Social scientists utilize counterfactual analysis in evaluating critical junctures by using thought exercises that envision how history would have unfolded had an alternative path been chosen.

184 See Johnson, supra note 179, at 51.
185 See, e.g., James Gleick, Chaos: Making a New Science 8 (1987) ("Tiny differences in input could quickly become overwhelming differences in output—a phenomenon given the name 'sensitive dependence on initial conditions.'").
186 See supra note 17 and accompanying text.
187 Mahoney, supra note 21, at 513.
188 Id.; see also Levi, supra note 26, at 28 ("Perhaps the better metaphor is a tree ... From the same trunk, there are many different branches and smaller branches. Although it is possible to turn around ... the branch on which a climber begins is the one she tends to follow." (footnote omitted)).
189 But see Philip E. Tetlock & Aaron Belkin, Counterfactual Thought Experiments in World Politics: Logical, Methodological, and Psychological Perspectives ("Social scientists ... have also long been aware of the pivotal role that counterfactuals play in scholarship .... Nevertheless, some contemporary historians still sternly warn us to avoid 'what-might-have-been' questions.").
During the period immediately preceding the critical juncture, various dynamics influence the decision of which path to take. Counterfactual analysis maintains that if, during that time, the final result can be easily predicted, then that sequence ought not be viewed as path dependent. On the other hand, if the final outcome is causally connected to the prior conditions, that sequence may be viewed as path dependent. Such counterfactual exercises can delineate the importance of a critical juncture by demonstrating that choosing a different path would prompt a significantly different result. Yet, oversimplified, far-fetched, imaginary "what-if" exercises should be avoided. Instead, we should compare only alternative options that were truly viable and "on the table" at the time of the critical juncture. How do we get from a critical juncture to the final outcome? Investigating causal connections requires consideration of the following other path dynamics.

B. STATUS QUO BIAS THROUGH INCREASING RETURNS AND POSITIVE FEEDBACK

The term "increasing returns" refers to a condition whereby the more often a decision or a choice is made, the more prominent its advantages because of the increasing number of persons that select that route. For example, with today's complex technology, we frequently observe increasing returns as more people choose to adopt a technological innovation, gain more experience with this innovation, and help improve its operation. Accordingly, a notable effect of path dependence is that a minor benefit or unimportant lead for certain technology can result in irreversible influences on the ultimate market allocation of resources. For example, when two or more smartphone manufacturers (e.g., IBM and Apple) compete for the same market of potential adopters, trivial actions such as

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190 Mahoney, supra note 21, at 537.
191 Id.
192 Pierson, supra note 27, at 252–53.
193 See Arthur, supra note 168, at 116 (exploring the dynamics of allocation under increasing returns in a context where increasing returns arise naturally through agents choosing between competing technologies).
product launching events may inadvertently give one product a market advantage over the other, providing exponentially growing experience as more customers choose that product.\textsuperscript{194} This is an example of increasing returns.

A similar phenomenon, “positive feedback,” denotes positive externalities formed when the same decision is made by other individuals.\textsuperscript{195} There is an advantage for people whose decision is the predominant one.\textsuperscript{196} Positive feedback may seem similar to the dynamics of increasing returns, but it varies mathematically.\textsuperscript{197} Increasing returns describes a market in which advantages grow exponentially as market share increases and more players make the same choice.\textsuperscript{198} Positive feedback implies enhancement of value to those that already own a product or made a choice.\textsuperscript{199} Stated differently, positive feedback is a small reward given to market players themselves who previously chose that option.\textsuperscript{200}

\textsuperscript{194} See Liebowitz & Margolis, supra note 161, at 214–15 (noting that the causes of increasing returns are varied as the cause may be a result of either economies in production (supply side) or network effects (demand side)).

\textsuperscript{195} See PAUL PIERSON, POLITICS IN TIME: HISTORY, INSTITUTIONS, AND SOCIAL ANALYSIS 21 (2004) (describing path dependence as “referring to social processes that exhibit positive feedback and thus generate branching patterns of historical development”).

\textsuperscript{196} For example, the more consumers use a certain software, the more applications are written to accompany that software and improve the software’s features, which attracts more users to purchase the software. See Marina Lao, Reclaiming a Role for Intent Evidence in Monopolization Analysis, 54 AM. U. L. REV. 151, 182 (2004) (describing positive feedbacks created when more users adopt Microsoft Windows software).

\textsuperscript{197} See Paul Pierson & Theda Skocpol, Historical Institutionalism in Contemporary Political Science (noting that what economists call “increasing returns” could generally describe self-reinforcing or positive feedback processes), in POLITICAL SCIENCE: THE STATE OF THE DISCIPLINE 693, 699–703 (Irakatzen & Helen V. Milner eds., 2002); see also Pierson, supra note 27, at 251 (“For some theorists, increasing returns are the source of path dependence; for others, they typify only one form of path dependence.”).

\textsuperscript{198} See Pierson, supra note 27, at 252 (“In an increasing returns process, the probability of further steps along the same path increases with each move down that path. This is because the relative benefits of the current activity compared with other possible options increase over time.”).

\textsuperscript{199} See Page, supra note 172, at 88 (explaining that positive feedbacks are like “little bonuses given to people who already made that choice or who will make that choice in the future”).

\textsuperscript{200} See id. at 88 (defining positive feedback dynamics in path dependence); Mahoney, supra note 21, at 511 (providing examples of positive feedback).
It is worth noting here the differences between positive feedback and network effects, which are often conflated. Network externalities, or network effects, is a phenomenon whereby the value consumers place on goods increases the more others use those goods.\textsuperscript{201} Network effects are also referred to as “positive network externalities” (a term that surely adds to the confusion) or demand-side economies of scale, since each additional customer enhances the value of the network and changes the shape of the demand curve.\textsuperscript{202} For example, the value of participation in a network of computers has been observed to grow significantly with the size of the network.\textsuperscript{203} Network effects have played a major role in legal reasoning and discussions in various areas of the law—such as antitrust law, intellectual property law, corporate law, and contract law—because they affect the behavior of participants in the market.\textsuperscript{204} Alas, positive feedback does not involve being part of a network at all.\textsuperscript{205} Rather, the value of goods increases as

\begin{itemize}
\item \textsuperscript{201} Kolasky, supra note 164, at 579.
\item \textsuperscript{202} See id. (claiming that economists have focused primarily on the negatives of network effects and the ways they may lead to market failure).
\item \textsuperscript{203} See id. at 580 (“[P]ositive network effects exist when the utility of the network (and therefore its value) increases as output grows.”).
\item \textsuperscript{204} See, e.g., Mark A. Lemley & David McGowan, Legal Implications of Network Economic Effects, 86 CALIF. L. REV. 479, 481–85 (1998) (detailing the scholarship on network effects in various areas of the law); see also Michael L. Katz & Carl Shapiro, Network Externalities, Competition, and Compatibility, 75 AM. ECON. REV. 424, 425 (1985) (arguing that if network effects diminish social welfare, then courts should consider legal doctrines to remedy these market failures); Michael L. Katz & Carl Shapiro, Systems Competition and Network Effects, 8 J. ECON. PERSP. 93, 97–100 (1994) (describing market actors’ behavior in hardware/software markets). Lemley and McGowan named two main types of network effects—actual networks and virtual networks—that diverge based on the extent to which the goods provide inherent value to a consumer apart from any network characteristics. Lemley & McGowan, supra, at 488–94. They wrote, “The greater the inherent value of the good relative to any value added by additional consumers, the less significant the network effect.” Id. at 488. “Actual [n]etworks,” as they called them, encompass “products whose entire value lies in facilitating interactions between a consumer and others who own the product.” Id. Examples of products with actual networks include telephones, fax machines, and language. Id. at 488–89. “Virtual [n]etworks,” on the other hand, provide increased value when there are additional users of identical or interrelated products. Id. at 491. For example, as more customers use a specific software and auxiliary applications, existing users benefit from better file sharing and services. See id. at 491.
\item \textsuperscript{205} See Lemley & McGowan, supra note 204, at 495 (emphasizing that “[b]y definition, [positive effects] do not exhibit network effects”).
\end{itemize}
consumption rises, even where goods are not themselves connected. Thus, although positive feedback is similar to network effects because they both deliver increasing value to participants, the concepts differ in how that value is added. Apart from positive feedback, other dynamics are also important in reinforcing a path.

C. SELF-REINFORCEMENT AND LOCK-IN

A “self-reinforcement” sequence can be characterized by reproduction that strengthens earlier events. Self-reinforcement portrays a condition in which once a decision has been made, it creates complementary institutions that maintain that path and reassure its perpetuation. Accordingly, in self-reinforcing sequences, initial strides in a specific path motivate additional, similar steps such that it becomes difficult to divert from that path. “Lock-in” portrays a situation in which a decision is repeated because a sufficient number of market players have invested resources in, and become reliant upon, that decision. Once unforeseen, critical historical events take place, path dependence is observed through inertial and deterministic causal patterns. In other words, when processes are set in motion, they tend to stay on the path that results. This stage has been described in social science literature as a state of “inertia.” In the legislative context, inertia may ensue as temporary legislation gets “entrapped” in a self-reinforcing sequence, making the cost of deviation from the renewal pattern too high.

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206 Id. at 494.
207 See Mahoney, supra note 21, at 516 (discussing the dynamic of self-reinforcement in path-dependence scholarship).
209 Mahoney, supra note 21, at 512.
210 See, e.g., Lim, supra note 29, at 510, 542–49 (discussing lock-in in the software industry where switching costs are often very high).
211 See Mahoney, supra note 21, at 511 (“Path-dependent sequences are marked by relatively deterministic causal patterns or what can be thought of as ‘inertia’—i.e., once processes are set into motion and begin tracking a particular outcome, these processes tend to stay in motion and continue to track this outcome.”).
212 Id.
Self-reinforcement creates dynamics that reproduce a specific pattern over time. It generates “reactive sequences” that comprise a chain of reaction and counterreaction as one event causally prompts the next, eventually leading to lock-in of the path. Nevertheless, path dependence scholars recognize the possibility of breaking out of a lock-in situation, depending on the overall efficiency and strength of the inertial pattern created in the past. Unexpected shocks, they claim, can alter the course of the path.

Political scientist Paul Pierson has identified four aspects of the political domain that reinforce path dependence dynamics: (1) the centrality of collective action, meaning that the viability of individual political activity depends immensely on the activities of others and requires positive feedback to assure their support; (2) the high number of organizations urging representatives to make commitments, which elevates the cost of departure from past arrangements; (3) the existence of power asymmetry, which allows certain actors to force others to bend to their will, making open political clash pointless; and (4) the complexity and cloudiness of the political framework. Pierson also presumed that path dependence in politics places associations at the center of forming institutional patterns. Once adopted, institutional patterns deliver increasing benefits to current users because they continue to be adopted. This makes diverting from the selected path difficult, even if alternative

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213 See id. at 509 (“Reactive sequences are chains of temporally ordered and causally connected events.”); see, e.g., Andrew Abbott, From Causes to Events: Notes on Narrative Positivism, 20 SOC. METHODS & RES. 428, 445–49 (1992) (reviewing new methods for analyzing narrative data over time).
214 See Roe, supra note 27, at 643–45 (describing conditions that disconnect a chain of events); Langer, supra note 166, at 908 & n.369 (exemplifying path dependent dynamics in adjudication of international criminal law).
215 See Puffert, supra note 26, at 63 (“A process of economic allocation is called path dependent when the sequence of allocations depends not only on fundamental, a priori determinants—typically listed as technology, factor endowments, preferences, and institutions—but also on particular contingent events.”).
216 Pierson, supra note 27, at 257–62.
217 See id. at 255 (“[N]ew institutions often entail high fixed or start-up costs, and they involve considerable learning effects, coordination effects, and adaptive expectations. Established institutions generate powerful inducements that reinforce their own stability and further development.”).
Self-reinforcing dynamics associated with collective action processes also mean that organizations are strongly inclined to remain in place once they are standardized. Nobel Prize winning economist Douglass North has drawn a correlation between path dependence, institutional change, and lock-in. He distinguishes between associations and institutions, describing institutions as “the rules of the game in a society,” while organizations are the market players. Organizations, for the most part, exert their influence to justify their existence and to stifle change. This is especially so when they represent one group in society and are committed not to the general good of all constituents but only to those they represent. Once created, organizations are hard to change, and they significantly affect the path of action.

Indeed, as will be demonstrated, organizations have had a large impact in maintaining the path dependence of temporary legislation in the United States through self-reinforcement dynamics that have resulted in increased inertia and lock-in. Historical investigation

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[219] See Mahoney, supra note 21, at 508 (“With increasing returns, an institutional pattern—once adopted—delivers increasing benefits with its continued adoption, and thus over time it becomes more and more difficult to transform the pattern or select previously available options, even if these alternative options would have been more ‘efficient.’”); Pierson, supra note 27, at 258–59 (“[D]espite massive social, economic, and political changes over time, self-reinforcing dynamics associated with collective action processes mean that organizations have a strong tendency to persist once they are institutionalized.”).


[222] Id. at 5–6.


[224] See North, supra note 220, at 8 (noting that economic organization gradually evolve and alter institutional frameworks); see also Pierson, supra note 27, at 259 (arguing that self-reinforcing dynamics associated with collective action result in organizations having a strong tendency to persist after they are institutionalized).

[225] See infra Part V.
provides a valuable tool for understanding the steps that set a path into motion. The following case study of a prominent fiscal policy will illustrate how path dynamics of expiring provisions can become rooted and inertial.

IV. THE RESEARCH CREDIT AS A CASE STUDY

The creation of the research credit program did not occur in a vacuum. That route began with the Cold War, which reflected a critical juncture—a period of worldwide technological competition, national security and defense anxieties, and increasing military concerns.226 With the rise of Soviet scientific prowess, America experienced a period of self-examination in which it realized it could lose its technological superiority to the Communist Bloc. During committee hearings, the director of the National Science Foundation (NSF) warned about the Soviet Union’s growing scientific power:

[T]he recent evidence of serious challenge to United States supremacy from the U.S.S.R. has come as a rude shock to most Americans and has brought about a period of intensely critical self-examination and analysis. . . .

. . . Whether by this means [the U.S.S.R.] can succeed in [its] expressed ambition to dominate the world in scientific and technological achievement remains to be seen.227

226 For examples of scholarship studying the Cold War through the lens of critical juncture and path dependence, see Giovanni Capoccia & R. Daniel Kelemen, The Study of Critical Junctures: Theory, Narrative, and Counterfactuals in Historical Institutionalism, 59 WORLD POL. 341, 345 & n.17 (2007) (noting that “[t]he concept of critical junctures has been applied to a striking variety of topics including . . . the end of the cold war”); Alen Hristov, Historical Institutionalism Meets IR: Explaining Patterns in EU Defence Spending, E-INT’L REL. (Feb. 3, 2019), https://www.e-ir.info/2019/02/03/historical-institutionalism-meets-ir-explaining-patterns-in-eu-defence-spending/ (arguing “that the whole early Cold War – post-Crimea episode is causally linked through a path dependent sequence of events”).

227 Research and Development: Hearings Before a Subcomm. of the H. Comm. on Gov’t Operations, 85th Cong. 5–6 (1958) [hereinafter Research and Development Hearings]
Achieving superiority in technology involved, among other steps, investment in research facilities and the education of engineers and scientists.\textsuperscript{228} Over a decade after the test of the first nuclear bomb in Alamogordo, New Mexico, in 1945, the United States undertook an extensive study into the nation’s slowdown in scientific research.\textsuperscript{229} Federal sponsorship of defense- and aerospace-related research was low compared to that of other nations.\textsuperscript{230} Research universities in the United States badly needed more funds directed toward basic research to support large-scale scientific activities.\textsuperscript{231} The Soviet government and its communist centralized bureaucracy were the main sources of industrial support for Russian research.\textsuperscript{232} Representatives from the Congressional Committee on Science and Astronautics urged the U.S. government to take similar steps.\textsuperscript{233}
Research and development became extremely important as it related to U.S. defense and weapon systems.

The sluggish rate of private investment in research disadvantaged the U.S. trade balance with other industrialized nations. During the 1960s and 1970s, while spending on research in the United States was in continuous decline, rival countries created a remarkable upsurge in technological research. Reports from Japan's Ministry of International Trade and Industry described the United States as "a state of relative decline—politically and economically." The United States was about to lose its standing as one of the world's most innovative countries and largest exporters of high-technology goods. Concerns about economic growth and productivity became central in American public debate. Lagging productivity and sluggish investment

Emilio Q. Daddario (stressing the importance of research and science to create new products that would improve the nation's future, security, welfare, and economy).

234 Private research to Gross National Product ratio in 1977 for the United States was 1.5%, compared with 1.9% for Japan and 2.3% for West Germany. STAFF OF THE J. COMM. ON TAXATION, 97TH CONG., GENERAL EXPLANATION OF THE ECONOMIC RECOVERY TAX ACT OF 1981, at 119 (Comm. Print 1981); see also President's 1963 Tax Message, supra note 233, at 2618–19 (statement of Congressman Emilio Q. Daddario) (noting that private company-financed R&D had been greatly waning); William M. Horne, Jr., Research and Development Expenditures (pointing to the growing "time lag" of seven years "between the research expenditures and their payoff in new products and whole new industries"), reprinted in H. COMM ON WAYS & MEANS, 85TH CONG., 2 COMPENDIUM OF PAPERS ON BROADENING THE TAX BASE 1115 (Comm. Print 1959).


237 See id. at 1321 (noting that "[m]ost of America's current and future export strength depends upon high technology products in which semiconductors are the essential components" and that "[i]f America loses its technological lead in [the semiconductor] industry, it will impair our ability to maintain world leadership in commerce and in defense capability").

238 See, e.g., Walter W. Heller, Shying Away from Recovery, WALL ST. J., Dec. 18, 1975, at 16 (explaining the debate over policy issues like tax cuts and the decisions made by the Federal Reserve); Christopher S. Wren, Soviet Plans to Cut Economic Lag Behind U.S. by '80, N.Y. TIMES, Oct. 28, 1976, at 1 (explaining how the Soviet's plans could lead to the Soviet Union surpassing the United States on several economic fronts).
ratios led to increased calls for government involvement. The media reported a growing public fear. Traditional trade remedies were viewed as ineffective because they did not address inequalities in international competition. Industry associations urged the U.S. government to step out of its “neutral corner” and provide effective market incentives to maintain U.S. technological leadership. Businesspersons requested that Congress help them compete in the “markets of the future” by investing in research, improved products, and more efficient production facilities.

239 See Bradley Graham, U.S. Productivity: Golden Days Over, WASH. POST, Sept. 10, 1978, at F1 (reporting on a slump of U.S. productivity and noting that government agencies tasked with addressing the problem are ineffective); Urban C. Lehner, Manager's Journal: U.S. Productivity, WALL ST. J., Nov. 19, 1979, at 22 (discussing the efforts of the Assistant Secretary of Labor to address declining U.S. productivity).


241 See, e.g., Richard D. Lyons, Peterson Urges Research Incentives, N.Y. TIMES, Apr. 12, 1972, at 59 (discussing the need for new research and development policies due to increasing trade imbalances in high-technology goods); Executives Urge Tax Incentives and Cut in U.S. Budget, but Congressmen Demur, WALL ST. J., Sept. 20, 1974, at 3 (discussing debate among Congress members as to effective tax policy to address international competition); Robert W. Tucker, The International Struggle for Power and the Question, "Does Might Make Right?", WASH. POST, Mar. 10, 1977, at A2 (“The prospects for an emergent global community cannot appear promising today.”); Brendan Jones, U.S.-Japan Report Asks Freer Trade, N.Y. TIMES, June 17, 1974, at 47 (discussing cooperation between the U.S. and Japan to improve international cooperation).

242 See Tax Cut Proposals Hearing, supra note 236, at 1310–11 (statement of John Nesheim, Corp. Treasurer, Nat'l Semiconductor Corp. on behalf of the Semiconductor Industry Ass'n) (“[W]e face a major challenge in this decade from foreign governments... to maintain America's technological leadership.”); Leonard Silk, The "Secular Slowdown" Thesis, N.Y. TIMES, Oct. 21, 1976, at 67 (noting the need to employ new measures to stimulate more research and development); Richard Foster, Letter to the Editor, Proper Support for Lagging R.&D., N.Y. TIMES, July 18, 1979, at A22 (noting that a fundamental R&D problem is a long term investor behavior).

243 President's 1963 Tax Message, supra note 233, at 2601 (statement of The Fountain Pen & Mech. Pencil Mfrs. Ass'n); see also id. at 2690 (statement of William M. Horne, Jr., Chairman, Tax Policy Committee, The Manufacturing Chemists' Ass'n, Inc.) (encouraging the Kennedy Administration to incentivize industry to adopt new technological equipment); id. at 2801 (statement of Paul Robbins, Exec. Dir., Nat'l Soc'y of Professional Engineers) (same).
During that period, American culture began to glorify technology as an American ethos and as a key to achieving a competitive advantage. More and more people linked technological advances and investments in research to spurring economic growth.\textsuperscript{244}

Several routes existed to improve the U.S. position in the worldwide technological race. Some options included direct and indirect subsidies for research and development. Foreign governments already established subsidy models for domestic technological advancements. For example, during the 1960s and 1970s, Canada, Japan, the United Kingdom, and West Germany provided various tax credits and cash grants to qualifying research expenditures, including capital outlays for buildings and other assets.\textsuperscript{245} The Japanese Ministry of International Trade and Industry implemented laws and policies that allowed U.S. firms to invest in Japan while negotiating patents in return.\textsuperscript{246} The Japanese government directly spent over $250 million on large-scale tech programs and various incentives.\textsuperscript{247} The Japanese government was not unique. Many other foreign governments

\textsuperscript{244} See, e.g., Wren, supra note 238 ("The Soviet leadership . . . announced production goals for 1977 that it hoped would help significantly narrow the Soviet Union's economic gap with the United States . . ."); Tucker, supra note 241 (discussing international cooperation around modern technologies); Jones, supra note 241 (reporting on statements from economic development experts that investment in energy development is needed to improve growth).

\textsuperscript{245} Such subsidies included special depreciation allowances for property devoted to R&D. See Tax Cut Proposals, supra note 236, at 1626 (statement of The Ass'n of American Railroads) ("[M]ajor world competitors . . . provide much more favorable depreciation allowances than our own system of taxation. Japan, West Germany, France, Australia, and Canada provide capital cost allowances permitting the write-off of investments at a rate 2 to 10 times faster than our present law.").

\textsuperscript{246} This tactic helped Japanese companies such as Hitachi, Toshiba, Mitsubishi, and Fujitsu to sustain domestic competition. See Jack Baranson, The Japanese Challenge to U.S. Industry 40 (1981) (detailing the Japanese license technology approach with foreign companies compared to domestic competitors).

\textsuperscript{247} See Tax Cut Proposals Hearing, supra note 236, at 1326 (statement of John Nesheim, Corp. Treasurer, Nat'l Semiconductor Corp. on behalf of the Semiconductor Industry Ass'n) ("Over the last four years the Japanese Government spent $250 million on the well publicized Very Large Scale Integration (VLSI) program."); Chalmers Johnson, MITI and the Japanese Miracle: The Growth of Industrial Policy, 1925–1975, at 16 (1982) (describing the way Japan imported a great proportion of its technology from the United States).
provided research assistance to domestic technological advancements that amounted up to $2 billion.248

Other direct stimuli paths included establishing a military research and development agency, similar to the Atomic Energy Commission, that would hire civilian and military scientists in a mixed organization and report to the Secretary of Defense.249 Proposals suggested providing incentives for private research expenditures to develop defense weapons.250 Others recommended stimulating investment in basic research science by providing incentives to corporations to collaborate with universities on developing basic research.251 Legislators and scholars called for not only reexamination of the support granted for basic and military research, but also for the ability to translate such research into economic activity and increased productivity.252

The growing concern for technological competitiveness and the emerging culture that glorified scientific innovations marked a critical point in time. Faced with a crossroad, decisionmakers needed to determine which route to adopt to keep pace with the worldwide technological race to the top.253 Among the indirect alternatives, economists called on changes to taxation to encourage the broadening of research efforts and more participation by both

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248 See Tax Cut Proposals Hearing, supra note 236, at 1313 (statement of John Nesheim, Corp. Treasurer, Nat’l Semiconductor Corp. on behalf of the Semiconductor Industry Ass’n) (“The Japanese, and other countries, . . . are providing government support in the form of subsidies and tax incentives to attract the capital needed . . . As much as two billion dollars is being spent on this effort . . .”).
250 See Tax Incentives for Exports: Hearing Before the Subcomm. on Taxation  & Debt Mgmt. of the S. Comm. on Fin., 96th Cong. 48, 50 (1979) [hereinafter Tax Incentives for Exports] (statement of Emil M. Sunley, Deputy Assistant Secretary of the Treasury for Tax Policy) (discussing a bill that would provide corporations with basic research credit).
the private and public sector. Specifically on the table was the creation of a temporary research credit shaped after another temporary provision, as will be explained in the following Section.

A. POSITIVE FEEDBACK FOR A NEW ROUTE

Providing indirect subsidies to stimulate private investment was not a new idea. The United States already used tax incentives for similar purposes, such as immediate expensing and the temporary “investment tax credit.” The research tax credit garnered more positive feedback than previous programs, which often provided lackluster benefits to constituents. As opposed to limited government grants, companies did not compete with each other for the credit as the program had no cap. Thus, the increasing support for the research credit amplified its advantages as more knowledge, experience, and involvement promoted that route.

The National Association of Manufacturers conducted independent studies on the benefits of capital tax incentives for economic growth and encouraged the government to provide additional tax incentives for product development in the form of a new investment credit focused on research. While the

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254 See Gerhard Colm, The Economics of the Current Fiscal Policy Proposals in the United States, 23 PUB. FIN. ANALYSIS 82, 93 (1963) (discussing tax reform measures to broaden research efforts and market opportunities).


256 See Stanley S. Surrey, Federal Tax Policy in the 1960's, 15 BUFF. L. REV. 477, 478 (1966) (“The investment tax credit, designed to encourage investment through an increase in the rate of return on investment in machinery and equipment and also in cash flow, was introduced in 1961 and adopted in 1962.”). Congress added § 38 to the Internal Revenue Code to provide a new temporary investment tax credit of seven percent of the cost of qualified property with at least four years of useful life. See 26 U.S.C. §§ 38, 46(a)(1), 46(c)(2) (Supp. IV 1958). The credit was limited to 100% of the tax liability up to $25,000, plus 25% of any tax liability in excess of $25,000. Id. § 46(a)(2). The credit aimed to encourage private investments in qualified property and to stimulate the modernization of plants and equipment. See Surrey, supra, at 478 (stating that the credit’s purpose was to “provide[e] in the tax system a solid support for investment in machinery and equipment”).

association’s overreaching proposal was not enacted into law until almost a decade later, it planted the idea to repeat the path of another temporary tax program in years to come. In 1978, Senators John Danforth (R-MO) and William Bradley (D-NJ) proposed an investment credit focused on research and development designed after the general investment credit precursor.\textsuperscript{258} They justified selecting that route by relying on studies that, at the time, predicted “the positive impact” of such an apparatus on research “spending, productivity[,] and inflation.”\textsuperscript{259} The proposed new research credit, they contended, would offset the ongoing reluctance of many companies to bear the significant costs of research.\textsuperscript{260} The new credit aimed to do for research investment what the investment credit purportedly did for capital investment—namely to reverse stagnant research trends.\textsuperscript{261} Yet, it took over three years for Congress to agree on a proper route and enact the measure because, among other possible options, the new research credit came with much uncertainty and a high price tag.\textsuperscript{262}

Treasury remained doubtful about the efficacy of yet another version of the investment credit for two main reasons.\textsuperscript{263} First and foremost, a credit imposes a high burden on the U.S. budget, and it was not clear how Treasury could offset such an expensive tax expenditure.\textsuperscript{264} Second, Treasury officials questioned utilizing the tax system, rather than direct government funding routes, to spur research investments.\textsuperscript{265} They tried to divert attention to different

\textsuperscript{258} S. 700, 96th Cong. (1979), reprinted in Tax Incentives for Exports, supra note 251, at 6.
\textsuperscript{259} See Tax Incentives for Exports, supra note 251, at 54 (statement of Mark Shepherd, Jr., Chairman and Chief Executive Officer, Texas Instruments, Inc.) (describing a study).
\textsuperscript{260} See id. at 53 (noting declining investments in research activity).
\textsuperscript{261} See id. at 47, 50 (statement of Emil M. Sunley, Deputy Assistant Secretary of the Treasury for Tax Policy).
\textsuperscript{262} The Finance Subcommittee on Taxation estimated the revenue cost of Senate bill S. 700 and its “10 percent investment tax credit for R&D expenditures” to be $1.872 billion in 1980, $2.227 billion in 1981, $2.516 billion in 1982, $2.767 billion in 1983, and almost $3 billion in 1984. Id. at 47, 50 (statement of Emil M. Sunley, Deputy Assistant Secretary of the Treasury for Tax Policy).
\textsuperscript{263} See id. at 29 (describing the Treasury Department’s doubts about the proposed investment credit).
\textsuperscript{264} See id. at 32 (“[I]f we seek to promote investment through a special tax program, the offsetting revenue cost must be weighed in the balance. To realize the desired economic objectives, any such tax program must be consistent with continued improvement in the budget position”).
\textsuperscript{265} See id. at 31–32 (“[T]he direct expenditure alternative may be more efficient.”).
paths by calling on agencies that were more familiar with administering research activities, such as the NSF or the Commerce Department, to take on the endeavor of stimulating increased research efforts.266

Notable academics, including Nobel Laureate in Physics Dr. Burton Richter of Stanford University, supported using the new credit for research.267 Dr. Richter stressed the importance of government policies that would encourage people to take more risks, not just in connection with capital, but also with research.268 Nobel Laureate Dr. Melvin Calvin also believed that providing a credit for research would encourage firms to innovate.269 Representatives from the National Academy of Sciences also recommended this path and emphasized that implementing it instantaneously was critical because the U.S. tax structure had remained unchanged over the previous twenty-five years.270 Likewise, the American Association for the Advancement of Science endorsed the proposed new research credit because it believed that it would increase returns for investors and the attractiveness of research investments.271 Representatives of nonprofit organizations such as the Midwest Research Institute, a large research organization that specialized in environmental research, raved about the bill, noting, "It is exactly

266 See id. at 32 ("Agencies familiar with research activities such as the [NSF] or the Commerce Department, would have more expertise in identifying basic research than would the Internal Revenue Service.").

267 See Destinies for American Research, supra note 252, at 70 (statement of Nobel Laureate Dr. Burton Richter, Stanford Linear Accelerator, Stanford University) ("Maybe you can do something about tax policy that lets people make a bundle more money if they innovate than if they go on in the present directions.").

268 See id. ("[I]t seems to me that there clearly is a problem. It is just as advantageous in the short run to continue in an industry with present technology as it is to really innovate.").

269 See id. at 71 (statement of Nobel Laureate Dr. Melvin Calvin, Chemistry Department, University of California, Berkeley) ("[O]ne way of perhaps inducing industry to increase its rate and take bigger risks is to have some tax way of providing an incentive for them.").

270 See id. at 78 (statement of Dr. Philip Handler, President, National Academy of Sciences) (explaining how it was difficult to blame the lag in innovation on the tax system because it had remained constant for twenty-five years).

271 See WORK GRP., RECOMMENDATIONS FOR CREATING JOBS THROUGH THE SUCCESS OF SMALL, INNOVATIVE BUSINESSES: A REPORT TO THE ASSISTANT SECRETARY OF COMMERCE FOR SCIENCE AND TECHNOLOGY (1978) (advocating for the ability of small firms to deduct the costs of regulatory compliance and citing to a report on the state of research), reprinted in Tax Incentives for Exports, supra note 251, at 122 & n.13.
the kind of help that the Federal Government should be providing to aid the economy."\(^{272}\)

Many businesspersons who had already gained administrative experience with the current format of the investment credit hoped to preserve its existing structure and merely expand it to include research expenditures.\(^{273}\) While the consensus seemed to favor new incentives, specifically for research, business leaders kept pushing for utilization of the existing credit structure and expansion of its application to research activities.\(^{274}\) Yet, as will be demonstrated next, the investment credit had a troublesome history that pushed Congress away from simply adding "research" to its existing ambit.

Much of the backlash the investment credit route received was due to its unstable lifecycle. During the 1960s and 1970s, the U.S. government utilized the investment credit as part of its "New Economics" policy and took affirmative fiscal actions to achieve economic growth while responding to recurring cycles of recession and recovery.\(^{275}\) As opposed to the neoclassical economics idea of free markets adjusted by an invisible hand,\(^{276}\) New Economics\(^{277}\)

\(^{272}\) Tax Incentives for Exports, supra note 251, at 226 (statement of John McKelvey, President, Midwest Research Institute).

\(^{273}\) See id. at 55 (statement of Mark Shepherd, Jr., Chairman and Chief Executive Officer, Texas Instruments, Inc.) ("Among many proposals for financial incentives, we feel the most effective would be based on a change in the investment tax credit.").

\(^{274}\) See id. at 40-41 (statement of Emil Sunley, Deputy Assistant Secretary of the Treasury for Tax Analysis) (noting that the business community argued that "additional tax incentives for R. & D. would be a 'mere tinkering at the margin' ").

\(^{275}\) See Eyal-Cohen, supra note 25, at 878 (detailing the historical circumstances of the birth and death of the investment credit). The investment credit conceptually relied on New Economics, Functional Finance, and Neo-Keynesian theories of government manipulation of market positions. See John Maynard Keynes, The General Theory of Employment, Interest and Money 175–77 (1936) (drawing a connection between increasing savings to more employment and advocating for a better understanding of ways to influence market demand); George Terborgh, The New Economics 8 (1968) (discussing the New Economics theory from a critical point of view); Abba P. Lerner, The Essential Properties of Interest and Money, 66 Q.J. Econ. 172, 192 (1952) (advocating the use of monetary and fiscal measures as an employment policy).


\(^{277}\) See, e.g., Franco Modigliani, The Monetarist Controversy or, Should We Forsake Stabilization Policies?, 67 Am. Econ. Rev. 1, 3 (1977) (pointing to the effect of "fiscal policy as the main tool to keep the economy at near full employment").
and Functional Finance theories relied on Neo-Keynesian theories of government manipulation of market positions. The doctrines prescribed increased use of fiscal, monetary, and expenditure policies in a flexible manner to moderate and manage the economy. They viewed fiscal policy as a flexible tool along with interchangeable budget position as a form of functional calibration. Focused on the potential of the economy, the federal budget began to include statistical calculations and predictions that allowed economists of the Council of Economic Advisors to foresee market behavior and respond to it beforehand via various apparatuses such as tax policy.

New Economics shifted the focus from a passive tax policy to a more active fiscal agenda. Using measures such as the investment credit, the government anticipated variable budget positions to be

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278 See Abba P. Lerner, Functional Finance and the Federal Debt, 10 SOC. RES. 38, 38–39 (1943) (explaining how fiscal policy that anticipates outcomes can direct the economy).
279 See generally KEYNES, supra note 275 (demonstrating a mathematical correlation between increasing savings to increased employment and market demand).
280 See, e.g., SEYMOUR E. HARRIS, ECONOMICS OF THE KENNEDY YEARS AND A LOOK AHEAD 88–97 (1964) (explaining the effect of increasing federal expenditures and tax incentives on the economy by spurring investments).
283 See Lerner, supra note 275, at 192 (advocating the use of monetary and fiscal measures to control inflation and spur economic growth).
284 See TERBORGH, supra note 275, at 8 (discussing the effect of taking certain budget positions as an economic stabilizer); see also Alvin H. Hansen, Inflation and the New Economics, CHALLENGE, Nov./Dec. 1966, at 5, 6 (discussing the correlation between monetary policy and fiscal policy).
285 See Walter W. Hellor, Adjusting the "New Economics" to High-Pressure Prosperity (May 1966) (noting how New Economics utilizes the full potential of the economy), reprinted in COMM. FOR ECON. DEV., MANAGING A FULL EMPLOYMENT ECONOMY 8, 9 (1966).
286 See SUBCOMM. ON FISCAL POLICY, J. ECON. COMM., 90TH CONG., REVENUE SHARING AND ITS ALTERNATIVES: WHAT FUTURE FOR FISCAL FEDERALISM 1205, 1207–08 (Comm. Print 1967) (discussing models of revenue growth and probable effects of tax policies).
modified as needed. Consequently, the U.S. government utilized the investment credit sporadically: suspended it in 1966, reinstated it in 1967, repealed it in 1969, reinstated it in 1971, increased it in 1975, and rescinded the investment credit altogether in the tax reform of 1986. The investment credit never reappeared despite many proposals over the years to restore this temporary legislation.

The evaluations of the investment credit's efficacy were, at best, mixed. Many objected to the credit on account of contracyclical fiscal theory. Critics thought that this path of functional finance policy relied on speculative forecasts with long time lags. Thus,

287 See Walter W. Heller, What's Right with Economics?, 65 Am. Econ. Rev. 1, 24 (1975) ("[G]overnment action to stimulate supply and suppress demand at certain pressure points in the economy might well pass the test of economic efficiency.").
288 Eyal-Cohen, supra note 25, at 878.
289 Id.
290 Some believed the investment credit was a productive economic tool that helped businesses obtain capital. See, e.g., Nomination of David A. Stockman: Hearing Before the S. Comm. on Governmental Affairs, 97th Cong. 45 (1981) (statement of Senator John Glenn) ("I think it is one of our more productive economic tools, and I think [investment credits] should be expanded instead of criticized as leading to lower income and lower employment."). Yet, Assistant Treasury Secretary Stanley Surrey was one of the biggest critics of temporary provisions, including the investment credit, and the use of the tax system to maneuver the market using New Economics theory. See J. Clifton Fleming, Jr. & Robert J. Peroni, Reinvigorating Tax Expenditure Analysis and Its International Dimension, 27 Va. Tax Rev. 437, 497 n.194 (2008) (mentioning Surrey's dislike of the investment tax credit as an expensive and unnecessary expenditure); see also Tax Changes for Shortrun Stabilization: Hearings Before the Subcomm. on Fiscal Policy of the J. Econ. Comm., 89th Cong. 238 (1966) [hereinafter Tax Changes for Shortrun Stabilization] (statement of Hon. Stanley S. Surrey, Assistant Secretary of the Treasury) (expressing skepticism regarding "the economic effectiveness of temporary individual income tax changes").
292 See President's 1967 Tax Proposals, supra note 282, at 598 (statement of Joseph A. Pechman, Director of Economic Studies, The Brookings Institution) (predicting a lag of six to twelve months for economic changes to follow fiscal action); Terbovich, supra note 275, at 21–22, 97 (noting that the twelve month forecast does not take into account legislative lag of fiscal actions); Robert E. Lucas, Jr., Econometric Policy Evaluation: A Critique, 1 Carnegie-Rochester Conf. Series on Pub. Pol'y 19, 30 (1975) (arguing that econometric estimates ignore the time it takes to accomplish fiscal action and various other lags affecting taxpayer's perception).
there was a buildup of public dislike of “functional finance” policy.293 The media reported that the scope and magnitude of the chosen fiscal action was theoretical and subject to various biases.294 Short-term forecasting made determining the scope of the fiscal action extremely uncertain.295 In the midst of this complex account, a new path took an unusual turn.

B. THE BIRTH OF A NEW TEMPORARY PATH

There were plenty of reactive sequences and critical junctures in the path of the temporary investment credit. Nevertheless, its on-and-off again history, lagging effect, and high budgetary price tag did not cultivate inertial forces and path dynamics that were strong enough to maintain its route. Rather, the investment credit was sought to manipulate and influence market behavior and created mixed public reaction.296 The investment credit was viewed as a failed experiment and a form of direct government intervention in market forces.297 A new device disconnected enough from this

293 See Eyal-Cohen, supra note 25, at 879 (“The failure of the investment credit was greatly attributed to its complexity, and to a build-up of public disdain for cyclical legislation and fiscal activism.”); Richard A. Musgrave, Cost-Benefit Analysis and the Theory of Public Finance, 7 J. ECON. LITERATURE 797, 798 (1969) (“When ‘functional finance’ reintroduced taxation as a policy tool, it was as an agent of deflation only, with the balanced-budget theorem the symbol of the both-sides approach.” (citation omitted)); Richard J. Cebula, Deficit Spending, Expectations, and Fiscal Policy Effectiveness, 28 PUB. FIN. 362, 363 (1973) (discussing Lerner’s ‘functional finance’ theory and arguing that hostility towards debt increases may constrain effective fiscal policy).

294 See Lucas, supra note 292, at 30 (“Insofar as this assumption is false over the sample period, the econometric estimates are subject to bias.”); Meiselman, supra note 281, at 100 (noting there is “essentially no tested knowledge” to be able to assess the merits of the New Economics’ policy proposals).

295 See supra notes 287–295 and accompanying text.

296 See supra notes 287–295 and accompanying text.

297 See Eyal-Cohen, supra note 25, at 878 (describing the failed arc of the investment credit). Assistant Treasury Secretary Stanley Surrey was one of the biggest critics of the investment credit and the use of the tax system to maneuver the market using New Economics theory. See Tax Changes for Shortrun Stabilization, supra note 290, at 238 (statement of Stanley S. Surrey, Assistant Secretary of the Treasury) (criticizing the investment credit); Raskind, supra note 291, at 313 (questioning the significance of the New Economics theory).
unsuccessful policy experiment was needed. At this critical juncture, the research credit originated as an offshoot of that path.

By the end of the 1970s, the U.S. economy was in a tailspin. Combined double-digit inflation and unemployment brought a peak in the "Misery Index."\footnote{See United States Misery Index: How Miserable do you Feel?, U.S. MISERY INDEX, http://www.miseryindex.us/indexbyyear.aspx (last visited Mar. 14, 2021) (showing that during the 1960s, the Misery Index averaged 7.1% but rose to an average of 13.3% during the 1970s).} Hopes for a research upsurge became the panacea for economic recovery at that time.\footnote{The Joint Economic Committee stated: "we urge that consideration be given to . . . broadening investment tax credits to include private [research and development]." The 1979 Economic Report of the President: Hearings Before the J. Econ. Comm., 96th Cong. 22 (1979) (report of the Williamsburg Assembly on Anti-Inflation Policy).} In his State of the Union message, President Jimmy Carter supported extensive government action to encourage investments in research activities.\footnote{See The State of the Union, 15 WEEKLY COMP. PRES. Doc. 105 (Jan. 23, 1979) (calling on Congress "to take other anti-inflation action . . . to reassess our Nation's technological superiority"); The State of the Union, 15 WEEKLY COMP. PRES. DOC. 140 (Jan. 25, 1979) (emphasizing that "research and development is an investment in the Nation's future").} The emerging high-tech industry—specifically the integrated circuits, telecommunications, and computer industries—greatly facilitated the enactment of the research credit. American Electronics Association representatives strongly favored a new research credit as a way to stimulate long-term research growth.\footnote{See Tax Cut Proposals, supra note 236, at 1302 (statement of Herbert M. Dwight, American Electronics Ass'n) (recommending bills that would encourage research and development, including a bill providing tax credits).} The American Marketing Association,\footnote{Tax Incentives for Research: A Public Policy Statement by the American Marketing Association, MARKETING NEWS, June 20, 1975, at 4 (publishing a statement of the National Task Force on Tax Credits and coming out in favor of a federal tax credit for research).} leading aerospace manufacturing companies,\footnote{See, e.g., Tax Incentives for Exports, supra note 251, at 311–25 (statement of John F. McDonnell, Executive Vice President of the McDonnell Douglas Corp.) (noting that the McDonnell Douglas Corporation was a leading aerospace manufacturing company that strongly advocated for creating incentives for research and arguing that it would contribute to the accomplishment of important national goals).} and the Semiconductor Industry Association\footnote{See Tax Cut Proposals, supra note 236, at 1301 (statement of John Nesheim, Corp. Treasurer, Nat'l Semiconductor Corp. on behalf of the Semiconductors Industry Ass'n) (dramatizing the need for the credit stating: "We are ready to go. We have got the ideas, and the innovations. We need the cash flow.").} all recommended a similar route.
At that critical juncture in 1981, Congress enacted a new temporary research credit to stimulate private sector research and development.\textsuperscript{305} By applying only to incremental research expenditures, the credit aimed to incentivize increases in research and development and further expansion of research spending.\textsuperscript{306} The Joint Committee on Taxation explained that the main reason for the research credit was the \textit{temporary} need to reverse a decline in private research activities, which remained at a low, stable level in real terms in preceding years.\textsuperscript{307} But once this route was created, strong path dependence forces led to corresponding cycles of extensions. These unique conditions paved the research credit's unique road. Positive feedback and self-reinforcing dynamics created strong inertial forces that helped cement that route toward enactment and future renewals. Industrial associations played a central role in encouraging Congress to extend, expand, and perpetuate the research credit program.\textsuperscript{308} In these sequences, initial strides made it difficult to divert from that path.

C. REACTIVE SEQUENCES OF RENEWALS

Why was the research credit maintained as a temporary provision over so many years? Much of it was priority-driven inertia.\textsuperscript{309} First, the temporary label offered budgetary flexibility and the opportunity to look for offsetting mechanisms to the high


\textsuperscript{306} Under the program, firms were, and still are, allowed a dollar-for-dollar offset of income taxes for additional investment in research. 26 U.S.C. § 44F (1982); 26 U.S.C. §§ 38(c), 46 (2018) (stating how to calculate the credit).

\textsuperscript{307} See Staff of the J. Comm. on Taxation, 97th Cong., General Explanation of the Economic Recovery Tax Act of 1981, at 119 (Comm. Print 1981) ("The 'civilian' research/GNP ratio for the United States is 1.5 percent, compared with 1.9 percent for Japan and 2.3 percent for West Germany.").

\textsuperscript{308} For example, small business tried to expand the new research credit route even further by making it refundable. See The Role of Small Business in the Nation's Economic Recovery: Hearing Before the S. Select Comm. on Small Bus., 97th Cong. 71 (1981) (statement of David Tenneson, Certified Public Accountant, Tenneson, Mela, Curtin & Co., Wakefield, Mass.) ("[The Smaller Business Association of New England, Inc.] endorses a refundable tax credit of at least 10 percent against any incremental expenditures for research and development.").

\textsuperscript{309} See supra notes 66–73 and accompanying text.
fiscal price tag that came with it.\textsuperscript{310} Second, the government needed to evaluate the operation and efficacy of the research credit and assess whether it indeed stimulated additional research expenditures or simply rewarded firms for their everyday research efforts.\textsuperscript{311} Lastly, the research credit was rather complex and required policy expertise.\textsuperscript{312} The periodic review gave legislators opportunities to appraise the credit, receive input from constituents, and refine the legislation.\textsuperscript{313} Yet, the temporary marker incentivized legislators to “kick the can down the road” and simply renew this intricate fiscal mechanism rather than terminate or permanently add it to the U.S. Code.

A path of reactive sequences—casually connected renewals, each a reaction to a temporally antecedent expiration event—ensued and created a legislative inertial process of multiple mechanical extensions. The 1981 Act set the original research credit to expire at the end of 1985.\textsuperscript{314} Yet, soon after, the program lapsed in anticipation of comprehensive reform. Congress made the first significant set of changes to the original credit in the 1986 reform (the biggest tax reform to this day), which marked another “critical juncture” in the history of the temporary legislation.\textsuperscript{315} The 1986

\textsuperscript{310} See \textit{supra} notes 262–264 and accompanying text.

\textsuperscript{311} See \textit{David L. Brumbaugh, Cong. Research Serv., IB92039, The Research and Experimentation Tax Credit 2–3 (1993) (discussing what led up to the Congressional action taken on the Research and Experimentation tax credit); Staff of the J. Comm. on Taxation, 97th Cong., General Explanation of the Economic Recovery Tax Act of 1981, at 121 (Comm. Print 1981) (maintaining the temporariness of the credit as a way to test its efficiency).}

\textsuperscript{312} See \textit{Staff of the J. Comm. on Taxation, 97th Cong., General Explanation of the Economic Recovery Tax Act of 1981, at 121 (Comm. Print 1981) (noting that the expiring nature of the law would give Congress the opportunity to assess whether taxpayers and the IRS were “able accurately to distinguish qualifying research expenditures from nonqualifying research-related expenditures”).}

\textsuperscript{313} In the case of the research credit, it allowed for periodic examination and review of categories of qualifying research expenditures and base period, as well as controversies between taxpayers and the IRS. \textit{Id.; see Brumbaugh, supra} note 311, at 2 (discussing amendments to the research and experimentation tax credit).

\textsuperscript{314} Economic Recovery Tax Act of 1981, Pub. L. No. 97-34, § 221, 95 Stat. 172, 241–47. For a detailed legislative history of the research credit, see \textit{infra} Appendix.

reform was portrayed as revenue-neutral as it lowered the individual income tax and offset it with increased revenues from the repeal of many business incentives. Surprisingly, the 1986 Reform did not repeal the research credit but extended it retroactively through December 31, 1988. While the research credit survived the far-reaching 1986 Reform, its distant temporary relative, the investment credit, did not. The reason for abolishing the investment credit was neutrality. The investment credit “favored investment in machines with relatively short useful lives.” Thus, it encouraged businesses to invest in equipment rather than other more economically efficient technologies.

The repeal of the investment credit served as an important turning point for the research credit program. Technology and innovation assumed a central position in tax policy discourse due to their assumed contribution to economic development and the rise in the standard of living. Accordingly, it appears Congress acknowledged, for the first time, that the culture of research and experimentation was prioritized over other policies, including the goal of maintaining tax neutrality. The research credit portrayed the improved “2.0” model of the investment credit targeting a more direct, long-term effect on the economy. The choice not to divert from the research credit’s initial path in the 1986 reform underscored the importance of maintaining a culture of technological innovation. Once a culture that glorified scientific
research was established, corresponding industrial associations self-reinforced the path of the research credit program, as the next Part demonstrates.

V. SELF-REINFORCED INERTIA

The research credit was extended for one more year by the Technical and Miscellaneous Revenue Act of 1988. A year later, the research credit was further prolonged in the Omnibus Budget Reconciliation Act of 1989, which also made the research credit more accessible for start-up firms. Congress routinely continued the research credit’s temporary inertial route using extensions and renewals. As this Part will reveal, these reactive sequences became locked-in and resistant to change through the efforts of organizations and associations that self-reinforced the program’s expansion. The wide support given to the research credit prior to its creation did not dwindle but grew and encompassed additional supporters as its path expanded. New coalitions encouraged shifting government funds to commercialize science and technology. Organizations delivered positive feedback via collective action and strong rhetoric to encourage more participants to utilize the program. The research credit’s path perpetuated itself with the utmost inertial strength.

Accordingly, over the years, the research credit received bipartisan support in spite of its high budgetary price tag. While

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320 Technical and Miscellaneous Revenue Act of 1988, Pub. L. No. 100-647, § 4007, 102 Stat. 3342, 3652. In addition, it curtailed the benefit to firms by obligating them to reduce their expensing claimed under § 174 by fifty percent of the combined amount of the credits. See id. at § 1002(b)(1), 102 Stat. at 3370.


322 See infra Appendix.

323 See Sheila Slaughter & Gary Rhoades, The Emergence of a Competitiveness Research and Development Policy Coalition and the Commercialization of Academic Science and Technology, 21 SCI. TECH. & HUM. VALUES 303, 304 (1996) (comparing the historical support for research granted by the defense and health coalitions).

both political parties supported extending the credit, disagreement between Republicans and Democrats arose often over whether and how to offset the revenue cost of this expensive measure.\textsuperscript{325} No party dared to repeal a popular apparatus to support "white-coats" engaged in scientific advancements that drive future economic growth.\textsuperscript{326} Technology and innovation, by that time, were deeply embedded values in the American culture. Self-reinforcement dynamics of coalitions, professional organizations, and industrial associations engaged in paving the path for the research credit and, once it was created, molded it over the years toward permanency.\textsuperscript{327} While such overreaching inertial forces existed in the case of the research credit, they did not in circumstances surrounding other temporary legislation, such as the late investment credit.\textsuperscript{328}

A. NON-PROFIT ORGANIZATIONS AND FEDERAL AGENCIES

In 1993, the Economic Strategy Institute (ESI), a non-partisan public policy research organization dedicated to assuring minimal market distortions,\textsuperscript{329} reported to the President that government-spending priorities should focus on providing more incentives for private investment in research.\textsuperscript{330} ESI also reiterated the

\textsuperscript{325} See GARY GUENTHER, CONG. RESEARCH SERV., RL31181, RESEARCH AND EXPERIMENTATION TAX CREDIT: CURRENT STATUS AND SELECTED ISSUES FOR CONGRESS 12-14 (2008) (describing how Republican leadership retroactively extended the research credit and certain other preferences through 2009).

\textsuperscript{326} See Martin A. Sullivan, Research Credit Hits New Heights, No End in Sight, 94 TAX NOTES 801, 801-03 (2002) (describing the fluctuating regulations on the research credit over time, and specifically, the shift between the Clinton Administration's regulations and the Bush Administration's regulations).

\textsuperscript{327} See id. at 802 (describing the involvement of businesses in advocating for specific changes in the research credit's regulation with Congress and executives both during the Clinton Administration and the Bush Administration).

\textsuperscript{328} For a short list of temporary legislation that did not survive, see supra note 17.

\textsuperscript{329} See Who We Are, ECON. STRATEGY INST., https://www.econstrat.org/about-us/who-we-are (last visited Apr. 21, 2021) ("ESI is a private, non-profit, non-partisan public policy research organization dedicated to ensuring that globalization works with market forces to achieve maximum benefits rather than distorting markets, and imposing costs.").

importance of encouraging more public-private partnerships to fund research collaboration in government-owned facilities.\textsuperscript{331} The Committee for Economic Development (CED)—a non-partisan, business-led, public policy organization—prioritized federal spending programs during the 1990s.\textsuperscript{332} While scrutinizing other programs, CED reaffirmed the research credit, citing studies showing that technology is a major source of improved living standards.\textsuperscript{333} The CED acknowledged that civilian research expenditures, as a percent of GNP, had been quite weak during the last decade.\textsuperscript{334} It advocated using the federal deficit to reverse the low savings rate via the research credit program.\textsuperscript{335} Steven A. Zimmer, a senior economist at the N.Y. Federal Reserve Bank, discussed the cost of technology capital before the House Subcommittee on Technology and Competitiveness in 1992.\textsuperscript{336} Zimmer recounted that firms were disadvantaged when investing in research projects, which tend to have a higher cost of capital.\textsuperscript{337} Thus, in his eyes, a research credit program was important to eliminate most of such hindrances.\textsuperscript{338}

Indeed, the periodic expiration of the research credit provided opportunities for government and industry to question and

\textsuperscript{331} See id. at 50 ("Combined public-private investment initiatives could also provide an immediate boost to the economy.").


\textsuperscript{333} See id. at 21, 25 (opposing "fiscal stimulus" but stating that "[i]nadequate investment in productive physical capital, education and training, and scientific research and technology have been major contributing factors to the slowdown in the growth of productivity").

\textsuperscript{334} See id. at 25 (discussing the reasons for "unsatisfactory" economic performance).

\textsuperscript{335} See id. at 29 (stating that, among other programs, "CED has placed the highest priority on...[m]easures that encourage research and development").

\textsuperscript{336} Id. at 69 (statement of Steven A. Zimmer, Senior Manager, Warburg Investment Management International).

\textsuperscript{337} See id. at 71 (noting that smaller firms "have a tough time supporting the fixed cost of something like research and development spending").

\textsuperscript{338} See id. at 72 (claiming that the cost of capital for research and development can be reduced with an effective tax credit of twenty percent).
reexamine the program’s efficacy. Was the research credit indeed effective in spurring investments in research that otherwise would not have occurred? Throughout the years, those in favor, and the few that criticized the research credit, used various empirical studies regarding the credit’s effectiveness. For example, the U.S. General Accounting Office published a study concluding that the credit positively increased research spending. The NSF followed suit, emphasizing the beneficial patterns of amplified research expenditures in government, civilian, and university sources since the enactment of the research credit program. Yet, the


340 See supra note 339.


Congressional Research Service (CRS) challenged the credit’s effectiveness. CRS staff economists doubted whether the program was the best way to support research; they believed that direct funding of research projects could be more cost-effective than the research credit itself. Moreover, research conducted by firms whose research expenditures were shrinking, and were not entitled to claim the credit, might have been equally valuable to firms that were eligible to utilize it. The CRS maintained that the non-refundability of the credit restricted its effect to large, established firms with positive tax liabilities, viewing the multiplicity of benefits for research as unwarranted.

With the commencement of a new century, the growth of e-commerce continued to cultivate the status of scientific advancements and global technological competitiveness. This culture was imperative in cementing the inertial path of the research credit. Representatives across the political spectrum emphasized the importance of maintaining the U.S. position in

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343 See DAVID L. BRUMBAUGH, CONG. RESEARCH SERV., 92-273 E, Tax Provisions Expiring in 1992, at 3 (1992) (arguing that “a tax credit may not be the best way” for the government to support research).

344 See id. (“Some have argued that direct funding of research projects may be more cost effective than the R&E credit.”).

345 See GUENTHER, supra note 325, at 20 (finding that the research credit “was most beneficial to firms whose research intensities had grown since their base periods and least beneficial to firms whose research intensities had changed little, not at all, or shrunk since their base periods”).

346 Firms were already permitted to use immediate expensing of their research outlays in the same year those expenses were incurred. Id. at 7.

international competition. Policymakers from both parties believed technology would enable the United States to compete in the future global market. This ethos facilitated a bipartisan agreement that maintaining the research credit program was essential. For example, by the start of a new millennium, House Speaker Dennis Hastert (R-IL), Minority Leader Dick Gephardt (D-MO), Senate Majority Leader Trent Lott (R-MS), Minority Leader Tom Daschle (D-SD), Vice President Al Gore (D), and Governor George W. Bush (R-TX) all endorsed continuing the research credit and expanding its scope. The Joint Committee on Taxation routinely supported extending the research credit program for its purported benefits in reversing declining research trends. The Joint Committee even went as far as encouraging legislators to make the research credit program permanent in order to increase certainty for firms currently utilizing it.

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348 See, e.g., Alison Mitchell, White House and Senate in Trade Accord, N.Y. TIMES, May 10, 2002, at A30 (discussing Democrats' proposal to provide health insurance subsidies for workers who lost jobs because of international competition); Sander Levin, Derailing a Consensus on Trade, WASH. POST, Dec. 5, 2001, at A29 (reporting a House Republican leadership initiative on a trade bill that handled international trade standards).

349 See Anne Swardson, A Better Blend of Transatlantic Competition, WASH. POST, July 2, 2000, at B1 (discussing the EU and U.S. relationship over technological disputes); Bob Davis & Gerald F. Seib, Technology Will Test a Washington Culture Born in Industrial Age, WALL ST. J., May 1, 2000, at A1 (citing the President's agenda under the New Economy policy to break concentration of technological power); Bill Joy, Technology Check, WASH. POST, Apr. 18, 2000, at A29 (suggesting policies to handle rapidly accelerating technological progress).

350 See Investment Incentives and Capital Costs, supra note 332, at 115 (statement of Peter Friedman, President, Photonics Imaging, Inc., representing the American Electronics Association) (“In a business environment where R&D cycles are calculated in years, and products lives are calculated in months, a permanent [Research and Development Tax Credit] is essential.”).


352 See Staff of the J. Comm. on Taxation, 106th Cong., Description of Revenue Provisions Contained in the President's Fiscal Year 2000 Budget Proposal 114-22 (Comm. Print 1999) (advocating for the extension of the research tax credit to encourage incremental research projects with increased long-term financial risk).

353 See id. at 123 (“A credit of longer duration may more successfully induce additional research than would a temporary credit, even if the temporary credit is periodically renewed.”).
B. INDUSTRY LEADERS AND PROFESSIONAL TRADE ASSOCIATIONS

Over the years, the path of the research credit became more stable and harder to divert.\textsuperscript{354} Industry leaders and professional organizations played a key role in sustaining increasing returns and positive feedback dynamics for repeated extensions of the research credit program.\textsuperscript{355} Their member firms came to rely on the research subsidy, and as more firms utilized the program, its path entrenched and expanded. These organizations used three main justifications for the need to make the research credit permanent: First, the temporary nature of the program increased its uncertainty and made relying on it difficult because projects were multi-year commitments.\textsuperscript{356} Managers and decisionmakers needed assurance that the credit would be available during the upcoming years as the research would continue.\textsuperscript{357} Second, due to their long-term nature, research projects have stretched schedules that develop over several years. Accordingly, firms faced long lags in harvesting returns on their research investments compared to ordinary investments in capital; they demanded stability rather than the practice of periodically extending the credit for short periods or allowing it to lapse.\textsuperscript{358} Lastly, assuring the research credit would be available past administrative audit was a big hurdle. The

\textsuperscript{354} See NORTH, supra note 220, at 100 (describing the interaction between organizations and institutions (rules and procedures)).

\textsuperscript{355} See, e.g., Peter Passell, The Tax Credit for Research and Development: Free Lunch, N.Y. TIMES, Feb. 5, 1998, at D2 (“[T]he academy is solidly behind the tax credit for research and development because it offsets what is widely viewed as the systemic failure of free markets to allocate adequate resources to research and development. Study after study has found that corporations capture only about half of the gain from in-house innovation, with the rest going to other businesses or to consumers.”); John Markoff, U.S. Planning to Extend Tax Credit for Research, N.Y. TIMES, Jan. 29, 1998, at A21 (“While economists have said that the effects of the tax credit have been diminished because the yearly extensions have made it difficult for companies to plan, studies have shown that the credit does have a significant effect on the economy.”).

\textsuperscript{356} See supra note 353.

\textsuperscript{357} See STAFF OF THE J. COMM. ON TAXATION, 106TH CONG., DESCRIPTION OF REVENUE PROVISIONS CONTAINED IN THE PRESIDENT'S FISCAL YEAR 2000 BUDGET PROPOSAL 122-23 (Comm. Print 1999) (“If a taxpayer considers an incremental research project, the lack of certainty regarding the availability of future credits increases the financial risk of the expenditure.”).

\textsuperscript{358} See supra note 350.
credit's temporary nature and transitional rules increased its (already high) complexity and its surrounding controversy. Thus, managers sought to resolve these major issues while Congress considered making the credit permanent.

Newspaper articles reinforced these points by noting the uncertainty and shortage in long-term capital investments in research. Congress needed to redesign research incentives to spur savings over consumption and provide productive investment over speculation. Fortune Magazine published a cover article that compared the competitiveness of firms in thirteen key industries in the United States, Japan, and Europe. The United States was ranked last in electronics.

The government justified continuing research subsidies under the claim that the market fails to allocate resources for research efficiently. This was said to cause the level of private spending on research to fall short of the amount that is warranted by the social benefits of research. Patents that protect developers' investments

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359 See Passell, supra note 355 ("The ... uncertainty has made it harder for companies to forecast their costs, net of credits, on long-term research projects. And while the impact on private research budgets is unclear, uncertainty has probably cut outlays.").

360 See, e.g., supra notes 238-241, 355, 359 and accompanying text.

361 See Executives Urge Tax Incentives and Cut in U.S. Budget, but Congressmen Demur, WALL ST. J., Sept. 20, 1974, at 3 (describing a potential tax imposed on profits "unless a concern diverts profits to research and development or capital spending projects").


363 See id. (describing the U.S. consumer electronics industry as sinking "[l]ike a rock").

364 See U.S. CONG. BUDGET OFFICE, FEDERAL SUPPORT FOR R&D AND INNOVATION xi (1984) ("[T]he government seeks to foster innovation by establishing conditions conducive to innovative activity, ... R&D provides the scientific and technical advances needed to sustain rapid rates of innovation."); id. at 10 ("The ... argument favoring governmental funding of R&D is based on the alleged inadequacy of the R&D carried out by the private sector, mainly because private businesses are generally unable to retain all the economic benefits of the R&D that they fund."); U.S. GEN. ACCT. OFFICE, GGD-89-114, TAX POLICY AND ADMINISTRATION: THE RESEARCH TAX CREDIT HAS STIMULATED SOME ADDITIONAL RESEARCH SPENDING 2 (1989) ("Lawmakers wanted to provide an incentive for businesses to invest in research because they were concerned about the competitiveness of American firms.").

365 The reason given for such market shortage was that some types of research required immense sums of capital, were too uncertain, or were difficult to evaluate accurately due to lack of information or expertise. See BRUMBAUGH, supra note 343, at 3 ("Without government support private industry invests less in research than is warranted by society's needs.").
in knowledge ultimately expire, and others reproduce the invention and appropriate part of its return.\textsuperscript{366} Accordingly, the total return to society from research is often greater than the return that accrues to the firm that originated the investment in research.\textsuperscript{367} This form of market failure for innovations was said to preclude firms from undertaking research even though it is warranted by its immense return to society.\textsuperscript{368}

The Semiconductor Industry Association was particularly conducive in endorsing renewals of the research credit. While doing so, it self-reinforced its own existence by encouraging more participation in the program and preserving important benefits to its members.\textsuperscript{369} After the collapse of the Soviet Union, Japan's high-technology sector continued to pose the greatest competitive challenge to the telecommunications and computer industries.\textsuperscript{370} To


\textsuperscript{367} See BRUMBAUGH, supra note 343, at 3 (explaining that markets "may not function optimally in the case of research"). On the uncertainty that is involved in innovation, see Mirit Eyal-Cohen, \textit{Through the Lens of Innovation}, 43 \textit{Fla. St. U. L. Rev.} 951, 978–81 (2016).

\textsuperscript{368} See BRUMBAUGH, supra note 343, at 3 ("[W]ithout government support private industry invests less in research than is warranted by society’s needs. The shortfall can be important. The advances in technology spawned by R&D can result in increased productivity—a leading source of gains in the Nation’s standard of living."). see also U.S. CONG. BUDGET OFFICE, \textit{supra} note 364, at xi ("The substantial government subsidies provided for research and development are justified on the grounds that the government should support R&D projects that are socially desirable but that are unlikely to be funded by private firms."). U.S. GEN. ACCT. OFF., GGD-89-114, \textit{TAX POLICY AND ADMINISTRATION: THE RESEARCH TAX CREDIT HAS STIMULATED SOME ADDITIONAL RESEARCH SPENDING} 22 (1989) ("R&E expenditures may generate benefits to society beyond those realized by companies that make these expenditures. If the activities encouraged by the credit are more beneficial to society than the activities discouraged by the additional taxes needed to fund the credit, then the credit is acceptable tax policy.").

\textsuperscript{369} See Tax Incentives for Exports, \textit{supra} note 251, at 202 (statement of John Nesheim, Treasurer, National Semiconductor Corp., Santa Clara, Calif.) ("New products, new technological innovations and, indeed, whole new industries might well be created as a result of increased research. . . . [P]roviding an investment tax credit for R. & D. expenditures will help to make available to U.S. businesses some of the capital which will enable the businesses to modernize and maintain our all-important technology lead.").

\textsuperscript{370} Structural differences between the countries’ economic environments provided Japan significant export competitive advantages over the United States and other nations. See U.S.-
survive, semiconductor companies had to innovate and invest in high levels of research and development.\(^{371}\) Yet, such investments, the Association noted, were highly uncertain, while new facilities quickly became obsolete.\(^{372}\) Self-funding was the industry’s main problem. Three quarters of American tech companies’ new capital at that time came from the reinvestment of after-tax earnings.\(^{373}\) Most companies paid “little or no dividends.”\(^{374}\) They sought tax reductions to generate new capital to reinvest in new technology rather than to transfer to investors.\(^{375}\) Such testimonies and statements were instrumental in reinforcing the research credit’s path. Congressional representatives acknowledged the challenges of the semiconductor industry and committed to advocate for government support of technological research.\(^{376}\)

Consequently, the inertial path of the research credit persisted vigorously into its second decade of its existence. Congress extended the research credit in the Omnibus Budget Reconciliation Act of 1990\(^{377}\) and the Tax Extension Act of 1991.\(^{378}\) Delegates from the American Electronics Association (AEA)—a trade association

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\(^{371}\) See Tax Cut Proposals, supra note 236, at 1324 (statement of John Nesheim, Corp. Treasurer, Nat’l Semiconductor Corp. on behalf of the Semiconductors Industry Ass’n) (“In order to survive, a semiconductor company must innovate and invest for the future. The industry must support very high levels of research and development.”).

\(^{372}\) See id. at 1324 (“[T]he new facilities will be obsolete in just a few years.”).

\(^{373}\) Id. at 1332.

\(^{374}\) Id.

\(^{375}\) See id. (“If Congress would provide us the kinds of incentives through the tax system that other countries provide . . ., we would overcome much of our growing competitive disadvantages as we seek to retain the U.S. lead in semiconductor technology. More needs to be done—especially in capital formation and trade policy—and tax reform is needed promptly in this aggressive, fast moving industry.”).

\(^{376}\) See, e.g., U.S.-Japanese Economic Relations, supra note 370, at 81 (statement of Rep. Frederick W. Richmond) (“1 . . . would like to do everything that we possibly can to help keep the semiconductor business here in the United States. After all, we invented it; didn’t we?”).

\(^{377}\) Omnibus Budget Reconciliation Act of 1990, Pub. L. No. 101-508, § 11402 (a), 104 Stat. 1388, 1388-473 (extending the research credit for one more year).

\(^{378}\) Tax Extension Act of 1991, Pub. L. No. 102-227, § 102(a), 105 Stat. 1686, 1686 (extending the research credit for six more months).
founded in 1943 to represent the technology industry, including firms like IBM, AT&T, Motorola, and others—testified before the House Committee on Science, Space, and Technology. The AEA delegates reinforced the Association’s own existence by claiming that high-technology companies were being hindered by the short-term mentality of investors when these companies required long-term capital investments, especially those involving research. The great uncertainty surrounding long-term research investments made it virtually impossible to raise large sums of capital. The AEA went on to fault the United States for being “the only country that does not protect industries which have some strategic value.” Three months before its scheduled expiration, the AEA urged Congress not only to continue the research credit’s path but to expand it. It advocated for the adoption of a permanent and more aggressive research credit program to prevent American companies from moving research overseas.

Yet, some managers, such as Hewlett Packard, admitted that they considered the research credit so unusable that they no longer calculated it into their long-range cost analyses. Similarly, industry leader George Hatsopoulos—chairman of Thermo-Electron (today Thermo-Fisher Scientific)—confessed that, for his firm, the effect of the research credit was like a drop in the sea. While he appreciated the extra tax savings, he admitted the credit really did

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379 See Investment Incentives and Capital Costs, supra note 332, at 102-17 (statement of Peter Friedman, President, Photonics Imaging, Inc.) (testifying on behalf of the AEA).
380 See id. at 112 (“Instead of being challenged on how we can bring our R&D to the marketplace, we are being dismissed by Wall Street . . . because we cannot promise returns before the next quarterly statement.”).
381 See id. (explaining that, for high-tech companies, “it is virtually impossible to raise money on Wall Street” due to investors’ “short-term mentality”).
382 Id. at 103.
383 See id. at 113 (“The AEA . . . strongly supports tax policies that encourage investment in R&D and manufacturing”). The AEA advocated for a fifty-percent credit, claiming such an increase was necessary to ensure the program’s effectiveness. Id.
384 See Rick Wartzman, Whether or Not They Benefit, Companies Decry Instability in Tax Law as a Barrier to Planning, WALL ST. J., Aug. 10, 1993, at A16 (citing managers responding to the extension of the research credit).
385 See Investment Incentives and Capital Costs, supra note 332, at 71 (statement of Steven A. Zimmer, Senior Manager, Warburg Investment Management Int’l) (stating that he met with Mr. Hatsopoulos and recorded his reaction).
not “enter into [the firm’s] marginal decision to invest at all.” 386 The reasons for that were twofold: First, the credit’s small size made it less relevant to company executives. 387 Second, the credit involved much uncertainty as a temporary provision. 388 Even if a firm claimed the credit in one year and included it as a base year for the future, it could harm the firm in the long run. Therefore, some firms’ decisionmakers disregarded the research credit. Hatsopoulos proposed to alter the path and provide a five percent credit on total research spending, which would have far more impact than the existing incremental twenty percent research credit. 389 He also supported a refundable research credit. 390 These proposals did not gain traction. 391

During the 1990s, the research credit continued its inertial path despite its high fiscal price and severe budgetary pressures during that period. 392 In 1992, President George H.W. Bush vetoed a bill that included an extension of the research credit for reasons that had nothing to do with the credit. 393 President Bush proposed an

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386 Id.
387 Id.
388 See id. at 71 ([He] was worried if he brought it up this year, this year might be included as a base year for the future and it could hurt them in the long run.); id. at 76 (Managers can’t be sure how the rules are going to be changed, and additional R&D spending now could reduce eligibility for credits later.).
389 See id. at 71 (stating that Hatsopoulos said, "[A] 5 percent tax credit on total research and development spending would have far more impact than an incremental 20 percent credit.").
390 See id. ("Hatsopoulos said that they appreciate any research and development tax credit . . . ").
391 See Jonathan Talley, Note, The Research and Development Tax Credit: Moderately Effective but Hampered by Politics, 10 DePaul Bus. & Com. L.J. 77, 80 (2011) ("No Congress and President have been able to agree on a permanent extension due to the difficulty of reconciling the revenue cost of a permanent extension with other budget priorities."); Wartzman, supra note 384 (citing managers’ responses to the extension of the research credit).
392 See Talley, supra note 391, at 79–80 (discussing Congress’s trend in the 1990s of continuously extending the research credit only on yearly bases because of “the difficulty of reconciling the revenue cost of a permanent extension with other budget priorities.”).
economic growth program but claimed that Congress had “produced partisan, flawed legislation” that would not create incentives for long-term investment and would increase income taxes for more than two-thirds of taxpayers.394 As a result, the research credit expired on June 30, 1992, and lapsed for the first time, underlining its temporary nature. But it did not lapse for long. Once the political crisis was negotiated, so were the terms of the program extension, and the research credit was retroactively reinstated through June 30, 1995.395 Retroactive renewals are extreme statutory measures, and their repeated practice in the case of the research credit emphasizes the ultimate inertial forces that fueled it.396

In his initiative titled “Rebuild America,” President Clinton made it clear that he prioritized support for the high-tech sector by including an investment program of $17 billion devoted partly to technology funding for the NSF but mostly to the extension of the research credit program.397 President Clinton also put forth a proposal to bring back the late investment credit again in the form of a temporary program.398 During 1993, the Joint Economic Committee reported another decline in research investments in the United States.399 It warned about a widening gap between U.S.
The enactment of the Omnibus Budget Reconciliation Act of 1993 (1993 Act) was a response to such concerns, resulting in extending the research credit retroactively once more until June 30, 1995. President Clinton’s proposal for the 1993 Act was to make the credit permanent. The House approved and passed the proposal, but the Senate version of the 1993 Act contained only an extension. According to scholars, this was a result of political struggle over the Republican campaign pledge to create a balanced budget. Notwithstanding its irregular extension cycles and, at times, its utility as a political negotiating tool, the credit’s inertial path steadily continued to build due to its increasing return and positive feedback dynamics as more companies used it and called for its permanence.

Congressional delay caused the research credit to expire again on June 30, 1995. Although small mom-and-pop shops did not use the program as often as large high-technology firms, Congress placed the next extension of the research credit in the Small Business Job Protection Act of 1996. The Act extended the credit and retroactively reinstated it but only from July 1, 1996, leaving the first and last one-year gap in the credit’s operation since its inception in 1981. This was a critical juncture that could have ended the path of the research credit. Yet, the inertial forces that maintained the credit since its inception continued its route forward. The reactive sequences of the research credit returned, and although the credit expired in 1997 and 1998, it was extended.

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400 Id. at 7.
402 See BRUMBAUGH, supra note 311, at 4 (“President Clinton’s budget proposals that were announced in 1993 proposed to make the R&E credit permanent.”).
retroactively once again by the Taxpayer Relief Act of 1997\textsuperscript{406} and the Omnibus Consolidated and Emergency Supplemental Appropriations Act of 1998.\textsuperscript{407} The legislative packages in which Congress placed the program serve as evidence of the status quo bias and the length to which legislators went to extend the research credit’s inertial path rather than to let it die. Once more, the credit expired in 1999 because of coalition-related priorities and political divide. It was retroactively reinstated and extended until 2004 in the Ticket to Work and Work Incentives Improvement Act of 1999, which Republicans advanced.\textsuperscript{408} That year, Congress emphasized extending expiring provisions, such as the research credit,\textsuperscript{409} and commentators at that time opined that this political push for the five-year extension of the research credit was meant to provide businessespersons certainty.\textsuperscript{410}

During the years that the credit was due to expire, Congress introduced a dozen bills to permanently extend the credit.\textsuperscript{411} These cycles and reactive sequences began with organizations, economists, and supporters of the credit emphasizing the importance of technological innovation to the economy.\textsuperscript{412} Presidential candidates


\textsuperscript{408} Ticket to Work and Work Incentives Improvement Act of 1999, Pub. L. No. 106-170, § 502(a)(1), 113 Stat. 1860, 1919 (extending the credit from June 30, 1999 to June 30, 2004); see Sullivan, \textit{supra} note 339, at 128 (briefly discussing the political economy of 1999 around the research credit and arguing that the extension of the research credit was closer to a “sure bet” than other options).

\textsuperscript{409} See, e.g., H.R. 2923, 106th Cong. §§ 101–05 (1999) (providing for a five-year extension of research credits).


\textsuperscript{411} See GUENTHER, \textit{supra} note 325, at 31 (illustrating that, in the 110th Congress, twelve bills were introduced to permanently extend the research credit, and another seven would have extended it temporarily).

\textsuperscript{412} See, e.g., \textit{id.} at 14 ("Beginning in the mid-1990s, a cycle emerged every time the credits were about to expire. The cycle commences when congressional and business supporters of the credit issue public statements calling for a permanent extension . . . ."); Passell, \textit{supra} note 355 (pointing to the political consensus of lobbying to advancing the research credit).
supported a permanent enactment of the research credit ceding to the rhetoric focused on high-technology, science, and innovations.413 Eventually, for budgetary reasons, Congress preserved the program but limited its extension to one or two more years.414

The inertial path of the research credit became locked-in—in cycles of renewal and extensions—because a sufficient number of market players had invested resources in, and became reliant on, the program.415 It was simply too costly at this point to revert to any alternative route such as competitive grants, private-public collaborations, or the expansion of basic research programs. As time passed, the research program benefitted from greater positive feedback.416 The more that constituents used the research credit subsidy and supported it, the more the program received backing for its alleged success in spurring additional research. With every cycle of extension and renewal, the program enjoyed increasing returns of its path. As more taxpayers claimed the research credit, their tax professionals became familiar with its intricacies, thus helping to improve its operation.417 While other programs for direct funding and research collaborations also competed for the same government allocation of funding, high switching costs from the research credit path prioritized it over other alternative options.

Path dependence scholars prescribe that organizations often exercise their influence to prevent change.418 When organizations represent only certain groups of constituents, they focus on

413 See, e.g., Joel Kurtzman, A Fed Chairman in Search of His Economic Leviathan, N.Y. TIMES, July 26, 1992, at A2 (“The Perot plan proposed a bullish-on-business five-year moratorium on taxes for startup businesses and a permanent research and development tax credit.”); supra note 351.

414 See Guenther, supra note 325, at 14 (“[I]n the end, Congress and the President can agree only on a relatively short extension of the credit, stymied by the difficulty of reconciling the revenue cost of a permanent extension with their other budget priorities.”); Gary Guenther, Cong. Research Serv., RL31181, Research Tax Credit: Current Status, Legislative Proposals, and Policy Issues 12 (2005) (explaining the “cycle” of credit expiration and extension).

415 See supra notes 354–355 and accompanying text.

416 See supra Section IV.A.

417 See, e.g., supra notes 339–341, infra notes 422–424 and accompanying text.

418 See generally N orth, supra note 220 (providing an account of political evolution from an institutional perspective); North, supra note 220, at 92–104 (considering the structure of institutions (rules) and their impact on the organizations that operate according to them).
maintaining and reinforcing the path that prioritizes the interests of that group. During 1997, a new player entered the political arena when the R&D Credit Coalition (Coalition) was created to join forces in a cross-industry effort. Although there were already other coalitions that acted on behalf of technology companies, this coalition was the first to name itself after, and design its agenda around, a specific temporary legislation. The Coalition aimed to ensure that the research credit became permanent. This network was comprised of over eighty-seven trade and professional associations, several think tanks, professional networks, advocacy and advisory groups, and over 1000 companies, including major conglomerates such as Microsoft, Apple, and Oracle.

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419 See, e.g., Greg Hitt, Businesses Bet Dollars-to-Doughnuts That Tactics Win Tax Breaks, WALL ST. J., Mar. 29, 2001, at A16 (noting the groups advocating for a permanent extension of the research credit similar to other nations).

420 See Savings and Investment Provisions in the Administration's Fiscal Year 1998 Budget Proposal: Hearing Before the H. Comm. on Ways & Means, 105th Cong. 263–72 (1997) [hereinafter Savings and Investment Provisions in the Administration's Fiscal Year 1998 Budget Proposal] (statement of Patrick Brennan, Vice President, Pericom Semiconductor Corp., San Jose, California; on behalf of the R&D Credit Coalition) (listing other coalitions that followed their agenda such as the Savings Coalition of America, the Blue Dog Coalition, the Family Business Estate Tax Coalition, Silicon Valley Software Industry Coalition, and Software Industry Coalition).


422 See Savings and Investment Provisions in the Administration's Fiscal Year 1998 Budget Proposal, supra note 420, at 263–72 (discussing the associations within the R&D Coalition, such as U.S. Chamber of Commerce, the Aerospace Industries Association, National Association of Manufacturers, Pharmaceutical Research & Manufacturers of America, and Semiconductor Industry Association, among others).


424 Other companies—including HP, Texas Instruments, Honeywell, Boeing, Lockheed Martin Corporation, DuPont, Exxon Mobil Corporation, Johnson & Johnson, and even motorcycle manufacturer Harley Davidson—participated in the R&D Credit Coalition. See Participating Companies, R&D CREDIT COALITION, https://web.archive.org/web/20060422210
The Coalition strongly reinforced the narrative that technological competitiveness is an integral part of economic growth. It advocated for extending and reshaping the rules governing the research credit.\footnote{See Letter from R&D Coalition to the Hon. Bill Thomas, Charles Grassley, Charles Rangel, & Max Baucus (Feb. 9, 2004), https://web.archive.org/web/20060721120837/http://www.investinamericasfuture.org/PDFs/230615.pdf (urging the enactment of a permanent research credit).} It argued that while the research credit was made temporary so that industry and government could evaluate its operation, the program had long proven to be an effective incentive for companies to increase their domestic research.\footnote{See The Tax Code and the New Economy, supra note 351, at 95 (statement of Bill Sample, Chairman, R&D Credit Coalition, Redmond, Washington, and Senior Director, Domestic Taxes and Tax Affairs, Microsoft Corporation) (“While it is understandable that the Congress in 1981 would want to adopt this new credit on a trial basis, the credit has long since proven . . . to be an excellent investment of government resources to provide an effective incentive for companies to increase their U.S.-based R&D.”).} The Coalition emphasized that the transient nature of the program and the many gaps in its extension reduced the program’s certainty and incentivizing effect.\footnote{See id. at 100 (stating that, to maximize the program’s effectiveness and to sustain global technological competitiveness, the U.S. research community needs a stable, consistent research credit).} In 2000, Bill Sample, Senior Tax Director at Microsoft and Chairman of the Coalition, testified about growing controversies in the administration of the research credit.\footnote{Id. at 93–100.} He argued that compliance disagreements were caused by the Department of the Treasury taking unreasonable positions during examination, litigation, and the proposed regulations.\footnote{See id. at 98 (stating that IRS regulations pertaining to research expenditures were extremely controversial and had increased uncertainty for firms and the IRS during the process). The Coalition cited litigation to show that courts supported its position and admonished the IRS for using “positions that were clearly unsupported by the law.” Id. at 99; see, e.g., Tax & Accounting Software Corp. v. United States, 111 F. Supp. 2d 1153, 1157 (N.D. Okla. 2000) (applying 26 U.S.C. § 41 to software which has been created to be licensed commercially for the first time).} Congressional representatives reiterated these concerns about the difficulty of administrating the research credit.
as a temporary program.\textsuperscript{430} Sample highlighted that research outlays are primarily spent on salaries for engineers, researchers, and technicians; thus, the benefits derived from successful new products trickle to higher salaries for employees and a higher standard of living.\textsuperscript{431} In 2005, Ernst & Young conducted a study on behalf of the Coalition that measured the effect of the research credit on firms that claimed it.\textsuperscript{432} They found that most companies utilizing the research credit were large, established conglomerates.\textsuperscript{433} These studies proved that the research credit program was a meaningful, market-driven tool that allowed firms to make the choice about the types of products and technology investments that would heighten their competitiveness in the world marketplace.\textsuperscript{434} Similar studies also posited that "a one-dollar reduction in the after-tax price of R&D stimulates approximately one dollar of additional private R&D spending in the short-run, and about two dollars of additional R&D in the long run."\textsuperscript{435}

\textsuperscript{430} See The Tax Code and the New Economy, supra note 351, at 98 (statement of Bill Sample, Chairman, R&D Credit Coalition) ("This reliance by the IRS on proposed rules, which are subject to further administrative actions, evidences a disregard for the administrative rulemaking process and inappropriate tax administration of the statutory provisions of section 41." (quoting a letter from Representatives Johnson and Matsui)).

\textsuperscript{431} See id. at 97 ("The R&D credit and investment in R&D is ultimately an investment in people, their education, their jobs, their economic security, and their standard of living.").


\textsuperscript{433} See id. at 5 ("The amount of tax credit claimed by corporations is concentrated among the largest firms . . . ."). In 2005, 17,700 corporations claimed $6.6 billion in research credits on their tax returns. Id. at 1. Of these firms, 29% had $1 million in assets or less, 25% had assets of $1–$5 million, 25% had assets of $5–$25 million, and 21% percent had assets of $25 million or more. Id. Of these corporations, 14,953 had less than $50 million in total assets and claimed more than $891 million in research credit. Of these corporations, 71.2% had a Standard Industrial Classification in some type of manufacturing; the remaining 28.8% included Services, Information, and Agriculture. Id. at 4, 6.

\textsuperscript{434} See The Tax Code and the New Economy, supra note 351, at 96 (statement of Bill Sample, Chairman, R&D Credit Coalition) ("The U.S. research community needs a stable, consistent R&D credit in order to maximize its incentive value and its contribution to the nation's economic growth and sustain the basis for ongoing technology competitiveness in the global arena.").

\textsuperscript{435} See id. at 96–97 (citing to a study by Coopers & Lybrand estimating that a permanent extension of the research credit would create "$58 billion of economic growth over the 1998–2010 period, including $33 billion of additional domestic consumption and $12 billion of additional business investment").
The Coalition was an instrumental player in the research credit path and led the way for other legislation-oriented coalitions. Its self-reinforcement efforts were fruitful in upholding the credit’s inertial path in the 2003 and 2004 Tax Cuts Acts. The Working Families Tax Relief Act of 2004 extended the credit again until the end of 2005, and the Tax Relief and Health Care Act of 2006 prolonged the credit until the end of 2007. This pattern repeated until 2014. At that time, the research credit was the largest and most popular part of a group of about fifty temporary provisions set to expire. Certain policymakers objected to an extension without offsetting the corresponding budgetary cost through budget cuts or other means. They argued that the price tag of a permanent extension of the research credit was too high and "would


441 See Jackie Calmes, Obama to Pitch Permanent Tax Credit, N.Y. TIMES, Sept. 5, 2010, at 22 ("As part of his pre-election push to spur the slumping economy ... President Obama this week will ask Congress to increase and permanently extend a popular but costly tax credit for businesses’ research expenses . . . .").

442 See John D. McKinnon, House Votes to Permanently Extend Research Tax Credit, WALL ST. J. (May 20, 2015, 7:27 PM), https://www.wsj.com/articles/house-votes-to-permanently-extend-research-tax-credit-1432154443 ("Starting last year, congressional Republicans sought to extend a few of the largest and most popular ones on a permanent basis, without offsetting the budgetary cost through budget cuts or other means.").


444 See McKinnon, supra note 442 (describing the political scuffle in 2015 surrounding the research credit).
cost the government about $180 billion over the next decade." The year 2015 was prime for an election-year showdown. The White House threatened to veto a permanent research credit if funding was not found for highways and health care. Each party accused its rival of irresponsible legislation. Democrats blamed the GOP for creating a massive budget deficit. Republicans accused Democrats of driving research jobs overseas. The research credit was in the midst of this power struggle. After some arm twisting, a vote of 274 to 145 made the research credit permanent for the first time in its long, transient life.

For over three decades, a temporary mechanism intended to battle entrenchment and allow legislative flexibility formed an inertial path that ultimately culminated in lock-in. The research credit was not created to allow repeated rent-extracting mechanisms; it was intended as a legislative experiment in research incentives. Indeed, its legislative history reveals that its existence was often questioned and necessitated extreme measures, such as retroactive enactments and reinstatements. Nevertheless, this temporary credit program involved dynamics that reinforced its path as a superior route, among other alternatives, to encourage research and experimentation. Thus, viewing the history of the research credit through the lens of path dependence theory illustrates that legislative inertia persists or dissipates not necessarily due to legislative intent or design, but via reactive path forces or lack thereof.

445 Id.
446 See Stephen Ohlemacher, House Votes to Make Research Tax Credit Permanent, N.Y. DAILY NEWS (May 9, 2014, 10:01 AM), https://www.nydailynews.com/sdut-house-votes-to-make-research-tax-credit-permanent-2014may09-story.html (noting that the White House threatened to veto the House bill because “if all the 50-plus temporary tax breaks were made permanent, it would ‘add $500 billion or more’ to the deficit”).
447 Id.
448 Id.
449 In 2015, President Obama signed into law the Protecting Americans from Tax Hikes (PATH) Act of 2015, Pub. L. No. 114-113, § 121, 129 Stat. 2242, 3040, 3049-50 that made the credit permanent and, for the first time, permitted small businesses to use the credit to offset both their regular, Alternative Minimum Tax and payroll tax liabilities.
VI. CONCLUSION

Legislative inertia has come to reflect a malfunction of democracy. Insufficient legislative time and priorities prevent legislatures from considering the efficacy of existing statutes in attaining their goal. A presumption in favor of the status quo creates an extensive barrier for statutory action because upholding legislative action is more time-consuming and politically costly than inaction. The result is legislative stagnation and numerous obsolete rules that do not accord with present-day social practices. In the search for optimal legislation, the last few decades saw an increasing use of temporary legislation that expires on its own after a set period of time.

Temporary legislation is one of the most confounding issues for constituents, lawmakers, and professionals. Every year, Congress adds new expiring provisions and extends existing ones. Despite its vast economic impact, our understanding of expiring legislation is limited by explanations that rely primarily on rent-seeking, leaving key questions about the life cycle of temporary legislation unaddressed. This Article provides the first comprehensive explanation of this phenomenon by drawing on path-dependence.

450 See Waldron, supra note 1, at 1389 ("Of course, in the real world, the realization of political equality through elections, representation, and legislative process is imperfect.").
451 See Dixon, supra note 66, at 2210 ("Capacity constraints of this kind will mean that there is little reason—or space—for legislative majorities to give priority to rights-based claims which are advanced by a relatively small minority, if those claims do not command strong majority support.").
452 See Listokin, supra note 9, at 530 (arguing that high "transaction costs" hinder constitutional policy change).
453 See supra note 2 and accompanying text.
454 See supra note 31.
455 See, e.g., Ian Ayres, Extremepore, 81 U. Chi. L. Rev. Dialogue 72, 74, 76 (2014) (suggesting a variety of existing practices and "contexts in which temporary law might provide a net benefit"); see also Joint Letter: Don't Revive the Expired Tax Extenders, COMM. FOR RESPONSIBLE FED. BUDGET (May 6, 2019), https://www.crfb.org/papers/joint-letter-time-end-costly-temporary-tax-provisions (describing a letter urging Congress not to extend temporary legislation by a coalition of twelve organizations from across the political spectrum). Recently, scholars have also demonstrated empirically the increasing practice of temporary legislation. See, e.g., Ittai Bar-Siman-Tov, Temporary Legislation, Better Regulation, and Experimentalist Governance: An Empirical Study, 12 REG. & GOVERNANCE 192, 211 (2018) (finding that temporary legislation in Israel is an "increasingly prevalent" legislative tool).
theory. It reveals that the path-dependent dynamics of temporary legislation often result in their own inertial force that can explain why some temporary provisions enjoy many decades of extensions and renewals, while others are kept in place for only a few years. By offering a deeper understanding of temporary legislation and its evolutionary path, this Article contributes to ongoing debates about the optimal design of present-day policies and the ability of legislatures to resist status quo bias and bring about legal change.

Like other meta-legal theories, path dependence does not prescribe "mystical aphorisms of the fortune cookie." Rather, it can inform legislatures about important facets of legal reality. This Article urges policymakers and scholars in diverse areas of the law to consider the ways our legal system employs path-dependence dynamics. In the case at hand, path-dependence theory demonstrates that a legal apparatus did not reduce—but rather exacerbated—unintended legal inertia, thus reinforcing the status quo bias in our legal system. It confirmed that path dynamics can create high switching costs that eventually achieve the opposite result and can entrench policies and programs regardless of their efficacy.

Path-dependent dynamics may also provide normative insights for achieving flexible lawmaking while averting inaction. Surprisingly, the solution may lie in adding more expiring limitations rather than abolishing them. For example, Congress can create a new expiring rule that sets a "three strikes and you're out" policy by which temporary legislation cannot be extended more than three times. In the search for optimal statutory change, lawmakers can adopt default rules that cause enacted, temporary legislation to revert to a previous iteration of law, bringing back the alternatives that were available before choosing that particular policy route. Though, this may not be desirable for either party because it imposes high switching costs on the legislature and constituents relying on the current policy. At the same time, these kinds of default rules may pressure legislators to reach a

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457 Cf. Sunstein, supra note 37, at 43 (proposing a mechanism of "active choosing" as a default rule, which would require people to overcome procrastination and incur effort costs that might otherwise lead them to focus on other matters).
Lastly, when choosing between several policy alternatives, legislators can adopt a temporary rule that enables experimentation with policy alternatives. If one policy option is deemed unsuccessful by predetermined objective measures, the law can default to any number of set alternatives. If it is evident (via predetermined measures) that the first enacted policy is effective in achieving its goal, it should be made permanent. These solutions can potentially enable policymakers to gain the benefits of learning and experimenting with different policies while avoiding path dependence through irreversible switching costs. They may enable programs and policies to entrench due to their merits, rather than historical accidents.

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458 See Listokin, supra note 9, at 536 ("A penalty sunset would introduce an unpleasant final law that would strongly encourage future legislators to overcome policymaking inertia. Once legislators overcome this inertia, it is likely (though far from guaranteed) that the lessons learned through this statutory optimal search would be heeded.").
VII. APPENDIX: LEGISLATIVE HISTORY

<table>
<thead>
<tr>
<th>Year</th>
<th>Legislative Change</th>
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<tbody>
<tr>
<td>1981</td>
<td>Creation of the R&amp;D tax credit scheduled to expire December 31, 1985.469</td>
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<tr>
<td>1986</td>
<td>Credit lapsed but was retroactively extended and the rate cut from 25% to 20%.460</td>
</tr>
<tr>
<td>1988</td>
<td>Credit extended for one year, but its effectiveness was reduced by decreasing the deduction for R&amp;D expenditures by 50% of the credit.461</td>
</tr>
<tr>
<td>1989</td>
<td>Credit extended for another year, further reducing the effectiveness of the credit by decreasing the deduction for R&amp;D expenditures by a full 100% of the credit and introducing a focus on start-up companies.462</td>
</tr>
<tr>
<td>1990</td>
<td>Credit extended for fourteen months through the end of 1991.463</td>
</tr>
<tr>
<td>1991</td>
<td>Credit extended through June 30, 1992.464</td>
</tr>
<tr>
<td>1993</td>
<td>Credit was retroactively extended through June 30, 1995.465</td>
</tr>
<tr>
<td>July 1, 1995 to June 30, 1996</td>
<td>Credit lapsed.466</td>
</tr>
</tbody>
</table>

466 See GUENTHER, supra note 325, at 18 n.25 ("The R&E tax credit has been in effect for each year between July 1, 1981, and the present except for period from July 1, 1995, to June 30, 1996, when it expired.").
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<tr>
<th>Year</th>
<th>Legislative Change</th>
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<tbody>
<tr>
<td>1996</td>
<td>Credit extended for eleven months, through May 31, 1997, but was not extended retroactively. The elective Alternative Incremental Research Credit (AIRC) added, increasing its flexibility and making the credit available to R&amp;D-intensive industries that could not qualify for the credit under the regular criteria.</td>
</tr>
<tr>
<td>1997</td>
<td>Credit extended for thirteen months and made available for expenditures incurred from June 1, 1997 through June 30, 1998, with no gap between this and the previous extension.</td>
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<tr>
<td>1998</td>
<td>Credit extended for one year until June 30, 1999.</td>
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<tr>
<td>1999</td>
<td>Credit extended until June 30, 2004 and a modest increase in the AIRC rates was adopted.</td>
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<tr>
<td>2004</td>
<td>Credit extended through December 31, 2005.</td>
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<tr>
<td>2005</td>
<td>Credit revised by adding a 20% credit of payments for energy research by certain qualified groups.</td>
</tr>
<tr>
<td>2006</td>
<td>Credit extended retroactively through the end of 2007, increased the AIRC rates, and established the alternative simplified credit.</td>
</tr>
<tr>
<td>2008</td>
<td>Credit extended retroactively through 2009.</td>
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<tr>
<td>2010</td>
<td>Credit extended through 2011.</td>
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<tr>
<th>Year</th>
<th>Legislative Change</th>
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<tbody>
<tr>
<td>2012</td>
<td>After a one-year lapse, the credit extended retroactively through 2013.476</td>
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<tr>
<td>2014</td>
<td>All four components of the credit extended through 2014.477</td>
</tr>
<tr>
<td>2015</td>
<td>PATH Act of 2015 retroactively extended the credit, made it permanent, and expanded credit provisions by allowing small businesses to take the credit against their Alternative Minimum Tax (AMT) liability for tax years beginning after December 31, 2015 and allowing startup businesses with no federal tax liability and gross receipts of less than $5 million to take the credit against their payroll taxes for tax years beginning after December 31, 2015.478</td>
</tr>
<tr>
<td>2017</td>
<td>Credit preserved and enhanced479 while eliminating Section 199 incentives and reducing the value of the Orphan Drug Credit.480</td>
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480 Id. §§ 13305, 13401, 131 Stat. at 2126, 2133-34.