

Regulatory Offsetting Schemes as Effective Governmental Self-Binding Device? Lessons from the German Experience

Xavier Fernández-i-Marín (University of Barcelona); Markus Hinterleitner (Uni Lausanne),
Christoph Knill (LMU Munich) & Yves Steinebach (University of Oslo)

Abstract

Governments in advanced democracies often implement self-binding mechanisms to counteract short-term political incentives with problematic long-term implications. One prominent approach are regulatory offsetting schemes, which aim to curb regulatory burdens by requiring the repeal or replacement of existing regulations for each new one introduced. This paper evaluates the effectiveness of the German offsetting scheme by analyzing over 500 laws regarding (i) restrictive clauses that impose burdens and (ii) passages related to the replacement or repeal of existing regulations. From a theoretical perspective, Germany can be considered a "least likely" case for the failure of self-binding. Nevertheless, our analysis indicates that the scheme has not succeeded in reducing regulatory burdens. These findings suggest that self-binding measures struggle to override political incentives for rule production, especially when monitoring systems are inadequate. We contribute to the literature by systematically assessing governmental self-binding effectiveness, introducing a novel methodological approach using large language models, and employing a robust difference-in-differences design to estimate counterfactual effects.

Keywords

Governmental self-binding; Regulatory offsetting; One-in-one-out rule; Regulatory burden; Administrative overburdening

Funding

This research has been funded by European Research Council (Horizon Europe, SUPA project, grant number 101177315).

Citation

Fernández-i-Marín, Xavier, Hinterleitner, Markus, Knill, Christoph & Steinebach, Yves (2026). Regulatory Offsetting Schemes as Effective Governmental Self-Binding Device? Lessons from the German Experience. *Public Administration Review*. [10.1111/puar.70107](https://doi.org/10.1111/puar.70107)

1. Introduction

Governments in advanced democracies know about their weaknesses. They are, at times, conscious that chasing short-term political objectives, such as prioritizing tax cuts to attract votes, can result in negative long-term consequences, like escalating public debt. This awareness has taken various forms, most notably the delegation of certain tasks to autonomous institutions in order to protect them from political interference, such as the delegation of monetary policy to autonomous central banks. The creation of independent regulatory agencies in a number of countries and policy areas has also been partly based on such considerations (Jordana, et al. 2018). In addition to delegating tasks to autonomous institutions and agencies, governments also resort to the adoption of rules to constrain their future choices. The most prominent of these are ceilings or brakes designed to prevent governments from incurring excessive public debt. All these approaches reflect attempts of *governmental self-binding*. Much like Ulysses, who commanded himself to be bound to the mast of his ship to resist the alluring song of the sirens (Elster 1979), governments seek to position themselves in such a way as to constrain their future choices or actions in order to resist short-term temptations and short-sighted actions that might undermine the achievement of long-term goals.

A recent example of governmental self-binding is the adoption of regulatory offsetting schemes in many advanced democracies (Steinebach, et al. 2024). Through such schemes (also known as “one-in-one-out rules”), governments seek to limit the continuous growth of rules and regulations. Short-term political incentives to demonstrate responsiveness to public demands have led to a massive increase in the number and complexity of national rule stocks (Adam, et al. 2019; Hurka, et al. 2022), which has been identified as a source of major long-term problems. The latter include challenges not only for businesses facing growing compliance costs (Botero, et al. 2004, Di Vita 2017; Falck, et al 2024), but also for public administrations suffering from

overload, which in turn undermines implementation and policy effectiveness (Fernández-i-Marín, et al. 2023; Knill, et al. 2025; Haag, et al. 2024).

But what sounds good in theory does *not* always work in practice. While Ulysses was able to exercise self-control, we do not know how self-control actually works for governments. Specifically, it is an open question to what extent governmental self-binding has a concrete impact on reducing the growth of regulatory burdens. Despite their growing use and importance in practice, regulatory offsetting schemes have received limited scholarly attention and scrutiny, with existing evaluations mainly carried out by government departments or agencies without applying scientifically rigorous methods and approaches (Goldberg 2020).

In this paper, we address this research gap. We examine the implementation and impact of regulatory offsetting schemes as a governmental self-binding device, focusing on the case of Germany, which introduced its “one-in-one-out-scheme” in 2015. The German case is of analytical interest for two reasons. First, when looking at the design, Germany’s offsetting scheme shows great similarities with other offsetting models in place. Second, Germany is a crucial case in terms of the potential success of governmental self-binding. Given the reputation of its administration for strict compliance and the design of a highly demanding and precise system for monitoring the application of the scheme, Germany is a “least likely” case for the failure of self-binding (Seawright and Gerring 2008). If self-binding in the realm of regulatory offsetting proves ineffective in Germany, it is improbable that such an approach will succeed in other countries either.

In order to identify potential effects of the German offsetting scheme, our approach involves an analysis of key textual features in legislative documents. In particular, we focus on extracting restrictive clauses that impose specific behaviors on target groups, as well as passages related to the replacement or repeal of existing regulations. The expectation is that if the one-in-one-out scheme is effective in reducing the regulatory burden, this should lead to (1) either a

significant reduction in new restrictive clauses or (2) an increase in passages related to the replacement or repeal of existing regulations after the scheme is introduced.

However, our empirical analysis, which is based on a robust and differentiated research design, reveals a clear failure of the German offsetting scheme as a governmental self-binding device. The introduction of the scheme did not significantly reduce the number of new restrictions, nor did it increase the frequency with which regulations were repealed or replaced. These results are consistent across various model specifications and estimation techniques, including means comparisons, models, and a difference-in-differences design. It appears that inaccuracies in the current monitoring system and short-term political temptations contribute to its shortcomings. Offsetting schemes overlook the fact that governments have strong political incentives to develop policies that meet societal demands. Moreover, the failure of Germany's monitoring system to measure regulatory burdens accurately further reduces the incentive for policymakers to change their practices. In short, unlike Ulysses, who successfully resisted the temptations of the Sirens, it seems that the political temptations of rule production are unlikely to be effectively countered by regulatory constraints.

With our analysis of regulatory offsetting schemes as a device of governmental self-binding, we make three central contributions. First, we provide a thorough investigation of the extent to which governmental self-binding is effective in taming strong short-term political temptations to engage in rule production. Second, we provide a novel methodological approach to systematically assess the effectiveness of regulatory offsetting schemes by relying on large language models. Third, we develop an innovative research design that allows assessing the counterfactual scenario of an absent offsetting scheme by exploiting features of the scheme's design in a difference-and-difference analysis.

The article is structured as follows: *Section 2* explores the theoretical foundations of regulatory offsetting schemes, examining their potential to control rule growth as well as the

contexts in which they may not achieve the expected outcomes. *Section 3* outlines our research design, followed by *Section 4*, where we conduct our empirical analysis. Finally, in *Section 5*, we discuss the insights gained from our findings and conclude.

2. Theory: Regulatory Offsetting Schemes as a Governmental Self-binding

Device

In his book “Ulysses and the Sirens”, Jon Elster (1979) explores the concept of self-binding, particularly the idea of how actors can make rational choices to overcome future temptations or weaknesses. The book uses the myth of Ulysses and the Sirens as a metaphor for understanding the conflict between immediate desires and long-term goals. In the myth, Ulysses, foreseeing the danger of the Sirens’ songs, orders himself to be tied to the mast of his ship so that he can hear their temptations without acting on them. Elster uses this analogy to examine commitment devices—strategies that actors use to prevent themselves from giving in to short-term impulses that would derail their long-term interests. Regulatory offsetting schemes constitute such a commitment device. They are an attempt at governmental self-control designed to prevent policymakers from engaging in the excessive production of regulations in order to avoid negative long-term consequences for democratic legitimacy.

Short-term political incentives for rule production

Electoral competition, which is the cornerstone of democratic systems, provides politicians and political parties with strong short-term incentives to engage in rule production. Power-seeking politicians are highly motivated to show they are responsive to the problems and demands of societal interest groups and the public by continuously proposing new regulations (Gratton, et al. 2021; Dasgupta and Kapur 2020). This gives politicians a tangible way to show they are

working to solve problems, boosting their credibility and legitimacy among constituents. At the same time, this means that governments are constantly broadening and deepening their steering activities (Gratton et al. 2021; Hinterleitner et al. 2024; Fernández-i-Marín et al. 2024). In contrast, it is far less politically attractive to abolish existing policies, even if they have proven ineffective to solve the problems for which they had been designed. Once policies are established, they create expectations among their beneficiaries, which is why the reduction of existing measures typically faces strong opposition (Bauer et al. 2012; Pierson 1994). Political incentive structures, therefore, result in governments typically adopting more rules than they eliminate over time, regardless of the policy sector in question.

Over the last decades, advanced democracies have experienced a significant increase in the number and complexity of governmental regulations (Adam, et al. 2019; Hurka, et al. 2022). By and large, these measures have been adopted to address key societal challenges such as ensuring public safety, protecting the environment, promoting economic stability, and safeguarding individual rights. From this perspective, regulations serve as the foundation of a constitutional state and are essential for maintaining, amongst others, fair competition, consumer protection and social justice, and by doing so, contribute to the development and well-being of society.

Long-term problems associated with rule growth

However, while the continuous creation of new rules may help address specific problems through a variety of approaches (Fernandez-i-Marín, et al, 2021), the resulting pattern of growing rule stocks constitutes a dysfunction within democracies, overburdening public administrations and target groups in the longer term (Gratton, et al. 2021; Limberg, et al. 2021; Fernández-i-Marín, et al. 2024; Knill, et al. 2025). The constantly expanding body of regulations presents clear challenges and disadvantages.

First, the rising costs of regulatory compliance are a significant issue in many countries. This trend is particularly challenging for businesses, as increasing bureaucratic expenses can impair their economic efficiency and competitiveness (Botero et al. 2004, Di Vita 2017; Falck, et al 2024; but see Ash, et al. 2024). Second, recent research suggests that not only the economy and citizens but also state administrations suffer from regulatory growth, as they increasingly struggle with implementing additional rules with their existing capacities (Fernández-i-Marín, et al. 2024). A consequence of this development are unequal implementation practices, leading to the prioritization of certain parts of the target group, whether it be plant operators in environmental policy (Kaplaner & Steinebach 2023) or policy beneficiaries in social policy (Knill, et al. 2025; Zink et al. 2024).

Governmental self-binding through regulatory offsetting schemes

However, it seems that many governments in advanced democracies are increasingly aware of these problematic incentive structures and have made attempts at conscious self-binding. To achieve such self-constraint, governments have intensified their efforts to control and slow down the growth of rules and regulations. In most advanced democracies, some mechanisms are in place to oversee and optimize the quantity and quality of regulation. Referred to as “metaregulations”, these institutional frameworks and processes seek to integrate regulatory review mechanisms into the standard procedures of governmental policy-making (Radaelli 2007; Rubin and Weinberg 2014; Lauber and Brooks 2023). In the literature, the most commonly assessed type of meta-regulation is Regulatory Impact Assessments (RIAs) (see e.g., Radaelli and de Francesco 2010; Staroňová 2010). RIA schemes aim to evaluate the potential economic, social, and environmental impacts of new regulations before they are enacted. By analyzing their potential benefits and costs, RIAs intend to help policymakers to make more informed decisions. While regulatory offsetting schemes are also a form of meta-regulation,

they are distinct from RIAs in important respects. Unlike RIAs, which also delve into the *qualitative* aspects of regulations, offsetting schemes primarily have a quantitative focus in that they seek to manage regulatory loads (Pircher 2023).

Regulatory offsetting or “one-in-one-out” schemes have gained traction during the last decade. 18 democracies have already established rule-offsetting schemes, and several others are being planned (Steinebach, et al 2024). The United Kingdom was the first OECD country to formalize rule-offsetting as an official government policy in 2011. Other advanced democracies, such as Canada, Germany, South Korea, Spain, and the United States, followed in the years after. In 2022, European Commission President Von der Leyen announced to implement a rule-offsetting program at the EU level, aimed at streamlining the management of EU legislation and reducing administrative costs (European Commission 2023).

The primary reason to adopt a one-in-one-out scheme is the anticipation of a “cap” on rule growth, i.e., to limit the growth of government regulation by ensuring that for every new regulation or law introduced, an existing one must be repealed or eliminated (Simonell & Iacob 2021). By tying the adoption of new rules to the abolishment of existing rules, the one-in-one-out principle naturally restricts the potential for excessive rule growth. This way, offsetting schemes seek to control and reduce the overall number of regulations, preventing excessive bureaucracy and ensuring that new regulations do not add unnecessary complexity or cost to businesses and individuals. At the same time, policymakers are incentivized to carefully evaluate the necessity of new regulations, knowing they must also identify one to repeal, thus fostering a more “cost-conscious” approach to governance (Donelan 2022). The requirement that introducing a new rule necessitates the removal of an existing one creates an inherent incentive to critically evaluate both the necessity and the efficiency of each new rule. Is a rule in a certain domain really necessary and worth the cost even when another rule needs to be abolished to get it adopted?

Challenges to the effectiveness of offsetting schemes as self-binding instruments

But as already discussed by Elster (1979), effective governmental self-binding is difficult to achieve for various reasons. A first factor in this regard refers to the *relative strength of tradeoffs between short-term gains and long-term losses*. Electoral competition in democratic systems provides strong incentives for politicians and political parties, with short-term gains looming much larger than the long-term losses of their short-term behavior given that these consequences usually only materialize long after politicians have left office (Gratton, et al. 2021). Short-term gains, such as winning an election or addressing immediate crises, might encourage leaders to break self-binding agreements.

Such patterns are also plausible when it comes to regulatory offsetting schemes. For Ulysses, the negative long-term consequences of listening to the song of the Sirens without self-restricting his agency would have been severe (i.e., resulting in steering the ship into deadly rocks). By contrast, long-term losses are far less challenging for democratic policymakers. While unconstrained rule productions maximize their short-term electoral prospects, the likelihood that policymakers face negative long-term consequences of this behavior is rather low. On the one hand, the problems resulting from growing rule stocks typically only unfold gradually over longer periods of time (Adam, et al. 2019; Fernández-i-Marín, et al. 2024). Negative consequences thus constitute a rather diffuse scenario. On the other hand, the vertical and horizontal institutional fragmentation characterizing modern political systems provides policymakers with ample opportunities for blame-shifting (Hinterleitner 2020) and hence reduces the chance that they can be held accountable for the long-term problems of their actions. Even if policymakers would break governmental self-binding commitments this would thus not directly hamper their re-election prospects.

Governments may hence simply *not* comply with the offsetting schemes. Rules and regulations are governments' number one problem-solving tool as they allow them to deal "with issues and problems as they arise" (Orren & Skowronek, 2017, p. 3). Thus, it is quite challenging for governments to resist the temptation of producing of new rules, and even if they decide to reduce their possibilities for doing so at one point, they might later on develop strong incentives to circumvent their own, earlier commitments. This does not mean that the extent of governmental non-compliance might be unaffected by the party-political composition of government. Liberal and right-wing parties might have a stronger commitment to curbing rules than left parties which generally have a stronger preference for governmental intervention (Jakobsen and Mortensen 2015). Yet, while party ideology might affect the extent of noncompliance, it does not fundamentally alter the general problem that governments – when being confronted with new problems or crisis – have strong incentives to demonstrate responsiveness, even if the latter implies no-compliance with existing offsetting schemes.

Second, the effectiveness of governmental self-binding might suffer from *lacking commitment mechanisms*. Like Ulysses who could only resist the Sirens' call with external help, governmental self-binding often requires some kind of external enforcement or accountability, which may not always be present. However, for governments such mechanisms are often lacking. Regulatory offsetting schemes are a case in point. On the one hand, the scheme is typically based on the idea that government ministries or agencies monitor the respective rules; yet, there is often no external enforcement or control body that oversees and sanctions noncompliance. On the other hand, the practical application of offsetting schemes suffers from vague definitions. If there is not a clear understanding of what exactly qualifies as a "rule," inconsistencies in the application can arise. For example, Nou and Stiglitz (2019) demonstrate that U.S. regulatory agencies have found innovative methods to circumvent the introduction of

the regulatory offsetting scheme. They did this through so-called “regulatory bundling,” which means they simply started to “pack more regulatory provisions into one rule” (p. 1179).

Third, in addition to lacking enforcement, the role of offsetting schemes as a governmental self-binding device may suffer from *challenges to evaluate their effectiveness in reducing regulatory burden*. While some democracies have begun self-evaluating their initial experiences with rule-offsetting programs, comprehensive assessments remain scarce, and the assessed impacts vary significantly across different jurisdictions (Nationaler Normenkontrollrat 2019; Nou and Stiglitz 2019; Shapiro 2020; Xanthaki 2023). This is hardly surprising in view of the conceptual challenges of measuring changes in regulatory burden over time and identifying the specific impact of offsetting schemes on this development. The effects of offsetting schemes might not only be apparent in terms of burden reduction – they could also play a crucial role in stabilizing the growth of burdens, especially when other factors contribute to the increase in regulatory production. However, these difficulties in conceptualizing and measuring effects of offsetting schemes might reinforce political temptations to break self-binding commitments, as non-compliance is overall difficult to detect.

In summary, although offsetting schemes, such as one-in-one-out provisions, are conceptually straightforward tools designed to reduce regulatory burdens, it remains uncertain whether they effectively promote governmental self-restraint in practice. This uncertainty is particularly evident when considering the strong incentives for governments to expand regulations and the challenges involved in enforcing and evaluating rule reduction. In the following, we study the effect of regulatory offsetting as a governmental self-binding device in closer detail, focusing on the case of Germany.

3. Research Design

The German “one-in-one-out” rule – in the German context also discussed as the “bureaucracy brake” – was adopted in December 2014 and applies to all initiatives decided upon since January 1, 2015 (Deutsche Bundesregierung 2023). Germany serves as an exemplary case study for two main reasons. First, when looking at how it is set up, Germany’s offsetting scheme resembles other offsetting models in place. As shown in *Table 1*, the offsetting scheme in Germany resembles the offsetting schemes found in many other countries. It covers both administrative and substantive burdens and applies a straightforward “one-in, one-out” rule, different to the more ambitious “one-in, three-out” version adopted by Denmark, France or the UK. Additionally, it includes both primary and secondary legislation but, like most EU countries, excludes supranational EU policies.

Second, Germany serves as crucial case in the sense that it can be considered a most likely case for the effectiveness of regulatory offsetting. On the one hand, the German administration is known for its adherence to rules (Peters 2021). This means that if a scheme is in place, it is likely to be followed diligently. This lowers the probability that an offsetting scheme may not work simply because public servants do not properly implement it. On the other hand, Germany has set up a highly demanding approach for evaluating the success of the offsetting scheme. In the German case, compliance with the “one-in-one-out” scheme is assessed through the evaluation of changes in so-called compliance costs (“Erfüllungskosten”). To determine these costs, the Federal Statistical Office collaborates with the relevant ministry responsible for implementing the policy measures in question to calculate the exact compliance costs incurred. They gather and supply comprehensive information on the administrative expenses borne by businesses, citizens, and public administration, as well as the material and time costs required to comply with new mandates. Together, these factors make Germany an ideal case for assessing the effects of an “average” offsetting scheme, providing valuable insights

into the potential impacts and effectiveness of such regulatory approaches in a wide range of cases.

Table 1: Existing regulatory offsetting schemes in OECD member and candidate states.

Country	Date	Type of Burden	Rule	Scope	Major Exemptions
Australia	2014-2016	Admin. and sub. burden	One-in-two-out	Primary and secondary leg.	None
Austria	2017	Admin. and sub. burden	One-in-one-out	Primary and secondary leg.	EU legislation
Canada	2012	Admin. burden	One-in-one-out	Secondary leg.	None
Denmark	2015-2019	Admin. and sub. burden	One-in-one-out	Primary and secondary leg.	Rules made by independent agencies
Finland	2017	Admin. and sub. burden	One-in-one-out	Primary leg.	Rules made in tripartite agreements
France	2013	Admin. and sub. burden	One-in-one-out	Primary and secondary leg.	None
	2017	Admin. and sub. burden	One-in-two-out	Primary and secondary leg.	None
Germany	2015	Admin. and sub. burden	One-in-one-out	Primary and secondary leg.	EU legislation
Hungary	2019	Admin. and sub. burden	One-in-one-out	Primary and secondary leg.	None
Israel	2021	Admin. and sub. burden	One-in-one-out	Primary and secondary leg.	None
Italy	2011	Admin. burden	One-in-one-out	Primary and secondary leg.	Rules made by independent agencies
South Korea	2016	Admin. and sub. burden	One-in-one-out	Secondary leg.	None
Latvia	2019	Admin. and sub. burden	One-in-one-out	Primary and secondary leg.	EU legislation
Lithuania	2014	Admin. burden	One-in-one-out	Primary and secondary leg.	EU legislation
Mexico	2017	Admin. burden	One-in-one-out	Secondary leg.	None
Slovak Republic	2022	Admin. and sub. burden	One-in-two-out	Secondary leg.	EU legislation
Spain	2013	Admin. burden	One-in-one-out	Secondary leg.	EU legislation
United Kingdom	2011	Admin. and sub. burden	One-in-one-out	Primary and secondary leg.	EU legislation
	2013	Admin. and sub. burden	One-in-two-out	Primary and secondary leg.	EU legislation
	2015-2017	Admin. and sub. burden	One-in-threeout	Primary and secondary leg.	EU legislation
United States	2017	Admin. and sub. burden	One-in-two-out	Secondary leg.	None

Based on: Steinebach, et al. (2024)

To measure the effectiveness of the German offsetting scheme, we rely on a text-as-data approach (for an overview, see Shapiro 2024). We extract textual features from the adopted laws to evaluate whether the regulatory burden have changed or not. As highlighted by Al-Ubaydli and McLaughlin (2017), new laws typically impose burdens on businesses and citizens primarily

by constraining their choices or by compelling them to take certain actions. Legal texts typically employ a relatively standard set of words to indicate such constraints or commands.

In view of these considerations, our measurement concentrates on changes in the number of so-called “restrictive clauses”. To identify these changes, we focus on the extent to which restrictive clauses have been added or removed. Our analysis focuses on the presence and introduction of restrictive clauses, specifically examining the following formulations: must (“muss”), may not/must not (“darf nicht”), necessary/required (“erforderlich”), obligated (“verpflichtet”), and forbidden/prohibited (“verboten”). The following sentences provides examples from the “First Act to Amend the Electrical and Electronic Equipment Act” that comprises several of these formulations:

- “Starting from January 1, 2019, the total weight of collected used devices *should* be at least 65 percent of the average weight of electrical and electronic devices placed on the market in the three preceding calendar.”
- “Distributors who are *obligated* to take back old devices (...) *must* clearly display in their retail store, in close proximity to the sales area of electrical devices, the symbol according to Annex 3, indicating that waste electrical equipment *must* be disposed of separately from unsorted municipal waste.”

A challenge in evaluating the effectiveness of a one-in-one-out rule using a text-as-data approach is that it requires consideration of not only what is added, i.e. the restrictive clauses in the text, but also what is removed. To accurately assess both added clauses and those being eliminated, we must also examine passages related to the replacement or abolition of existing provisions. Termination is indicated by expressions such as is repealed (“wird aufgehoben”),

ceases to be in force (“tritt außer Kraft”), is abolished (“wird abgeschafft”), is deleted (“wird gestrichen”), and is hereby repealed (“wird hiermit aufgehoben”). Replacement, on the other hand, is expressed through phrases like is replaced by (“wird ersetzt durch”), is redrafted (“wird neugefasst”), is changed to (“wird geändert in”), and is superseded by (“wird abgelöst durch”).

This comprehensive measurement approach allows us to assess the evolution of rule stocks over time, accounting for both added and abolished provisions. We use Natural Language Processing (NLP) techniques to extract this information from legal documents, as demonstrated in studies like Hurka, et al. (2022) and Gratton, et al. (2021).

Remarkably, Germany lacks a central database that systematically provides an overview of its enacted laws. The “Gesetze im Internet” platform¹ offers access to almost the entire body of applicable federal law in Germany. Still, the documents presented are in the *consolidated* version, meaning that amendments are automatically incorporated into the text of the law. This presents a challenge in tracking changes over time, which is crucial for our analysis since we are interested in the differences between the periods before and after the introduction of the offsetting scheme. To address this problem, we source legal documents through the “Dokumentations- und Informationssystem für Parlamentarische Vorgänge” (DIP). The DIP provides comprehensive reports on deliberations within the German Bundestag (lower house) and the Bundesrat (upper house), offering not only information on parliamentary discussions and proposed amendments but also on the final laws enacted. One limitation of this approach is that while the DIP emphasizes parliamentary material, primarily covering primary legislation, it does *not* comprehensively capture secondary legislation. In Germany, ministries typically issue regulations after being granted authority through primary legislation. However, a distinctive feature of German federalism is that the Bundesrat must be consulted when ministries enforce regulations based on primary legislation requiring the Bundesrat’s consent

¹ <https://www.gesetze-im-internet.de>.

("Zustimmungsgesetz"). Traditionally, this accounts for 40 to 50 percent of all enacted legislation. Therefore, even though utilizing the DIP may not document every regulation enforced, it allows us to account for all primary and a substantive portion of regulatory activities.

Our analysis centers on the decade from 1 January 2010 to 1 January 2020. This gives us an equal time span before and after the implementation of the one-in-one-out scheme on 1 January 2015. Overall, we retrieved over 500 legal documents for the respective time period.

Figure SI.1 in the Online Appendix show their distribution over time.

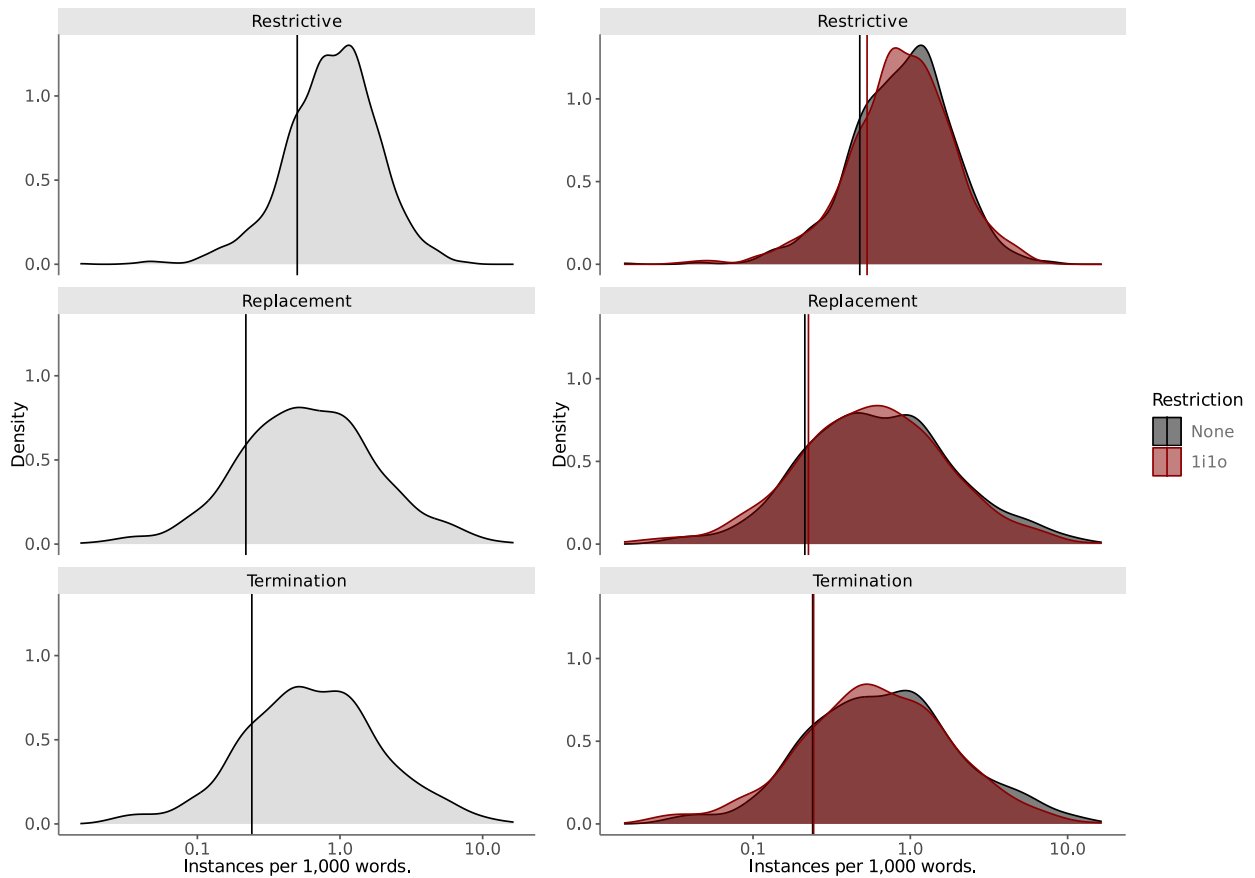
4. Empirical Analysis

To analyze the effects on the German offsetting scheme on the development of regulatory burdens in terms of changes in the numbers of restrictive clauses, rule replacements and terminations, we proceed in three steps. We first provide a descriptive assessment comparing the distribution of restrictive, replacement, and termination clauses before and after the introduction of the offsetting scheme. Second, as changes in regulatory burdens might not only be caused by the presence of offsetting schemes but might also be driven by political and institutional factors, we transform our data into a hierarchical structure, analyzing the impact of the offsetting schemes on regulatory burden while controlling for other time-variant factors. In a third step, we explore potential effects of the offsetting scheme by studying the counterfactual scenario of how regulatory burdens would have evolved without the scheme in place. To do so, we conduct a difference-in-difference analysis, exploiting the fact that the offsetting scheme only applies to regulations of *national* origin, but not to regulations emanating from the transposition of EU law.

Descriptive evidence: Distributions of textual features before and after the scheme's adoption

The upper illustration in *Figure 1* shows the distribution of textual features extracted from the legal texts. The left side of the figure illustrates the overall distribution. The right side presents the same distribution but separates it by (1) the legal acts adopted before the implementation of the “one-in-one-out” scheme and (2) the legal acts adopted after its implementation in January 2015. The first row presents the restrictive clauses, the second row displays the replacement clauses, and the third row contains the termination clauses, each categorized by instances per 1,000 words. The vertical lines on the right-hand side indicate the mean values for the two periods. While some minor differences between these groups can be observed, the overall disparities are quite limited. Hence, this figure suggests that the introduction of the offsetting scheme did not affect the frequency of clauses that would indicate slower burden growth for companies, citizens, and/or the administration.

Figure 1: Distribution of textual features extracted from the legal texts.



Note: The left side of the figure illustrates the overall distribution. The right side presents the same distribution, but separates it into (1) the legal acts adopted before the implementation of the "one-in-one-out" scheme and (2) the legal acts adopted after its implementation in January 2015. On the right side, the dark grey area marks the legal acts produced before the "one-in-one-out" scheme was introduced, while the red one highlights the policies adopted after the scheme's introduction.

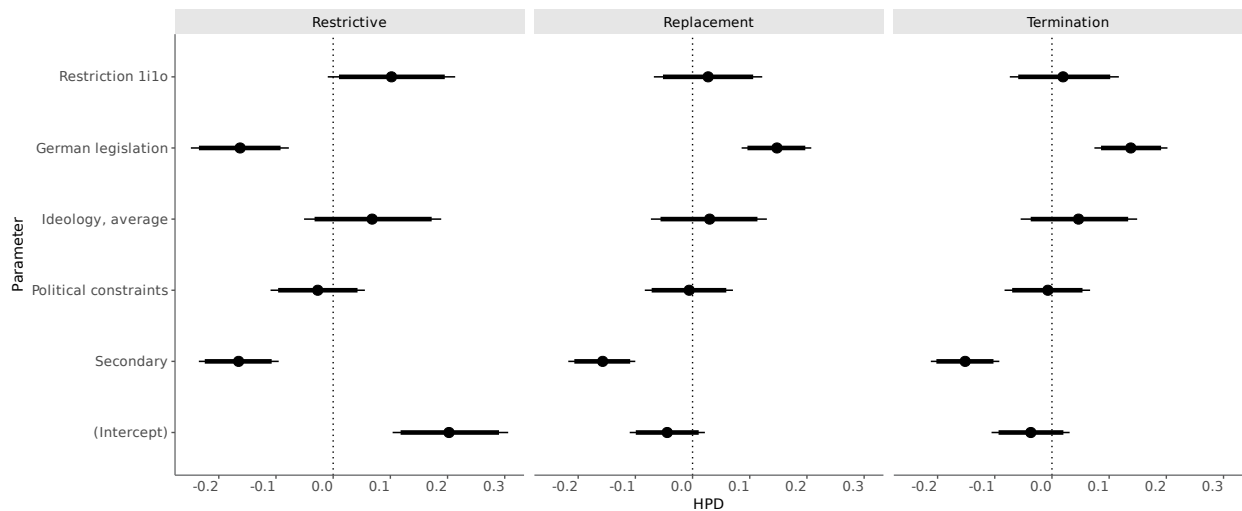
Hierarchical analysis: Controlling for confounding factors

The fact that we do not observe an effect in the descriptive analysis does not necessarily imply the ineffectiveness of the regulatory offsetting scheme. The scheme may have helped stabilize regulatory growth or, given other factors contributing to rule expansion, possibly limited further increases. To take account of such effects, we considered transformed our data into a hierarchical structure and controlled for various factors. First, we examined whether the characteristics of the government play a role. Specifically, we assessed whether the average ideological position of the government and the average ideological difference between coalition partners have an

impact on the effectiveness of regulatory offsetting as device of governmental self-binding (see the theoretical considerations above). To measure these aspects, we utilize data from ParlGov 2020 (Döring & Manow 2020). Second, previous research indicates that rule growth is often more substantial when legislation must navigate multiple veto points, as gaining the backing of additional stakeholders may be required (Fernández-i-Marín, et al. 2024). Therefore, we control for the number of effective veto players using data from Henisz (2000). In the German context, the number of veto players reflects whether the same political majorities are present in both the Bundesrat and the Bundestag. Third, we account for whether a given legal act is the transposition of an EU directive. As previously mentioned, German policy does not require offsetting for EU-induced policies. We classify laws as being “EU-induced” when they include phrases like “for the implementation of the EU Directive” (German: “zur Umsetzung der EU-Richtlinie”) or “based on the EU Directive” (German: “auf Grundlage der EU-Richtlinie”).

Our statistical approach utilizes Bayesian methods with weakly informed priors to estimate the model’s parameters. Bayesian inference offers several key advantages over traditional frequentist methods. First, it provides a natural framework for incorporating uncertainty, allowing us to express not just point estimates but also the full distribution of possible parameter values. This is particularly valuable when the data are limited or noisy, as it enables us to make probabilistic statements about the parameters rather than relying solely on fixed point estimates. By using weakly informed priors, we can introduce minimal prior knowledge into the model, avoiding strong assumptions about the parameter values. The weak priors ensure that the model does not overly constrain the parameter estimates, while still benefiting from the structure provided by the prior. To enhance the robustness of our findings, we adjust for heteroscedasticity by accounting for the different variances observed in the periods before and after the year 2015. We handle these differences using clustered standard errors, which helps ensure that standard errors are appropriately calculated for clustered data.

Figure 2: Determinants of policy-making patterns.



Note: Highest posterior densities (HPD) of the main parameters of interest (β) (95% credible interval). All parameters are standardized.

The results of our analysis are displayed in *Figure 2*. Our findings show that – also when controlling for stor potentially affecting regulatory growth – the presence of the regulatory offsetting scheme has no significant effect on the reduction of regulatory burden. On the contrary, we see that the presence of the offsetting even goes hand in hand with an increase in the number of restrictive clauses. At the same time, it seems that more political constraints (different majorities in the two legislative chambers) come with slightly fewer restrictive rules. Higher hurdles for achieving a political compromise seem to undermine rather than drive regulatory growth. This is in line with earlier findings that strong opposition dominance in the second chamber (Bundesrat) usually does not lead to open party-political conflict, but rather to a government’s legislative self-restraint (Manow & Burkhart 2007). Finally, our results also show that the origin of the regulations – national or EU-induced – matter for rule growth. Compared to laws stemming from the transposition of EU law, those of national origin generally feature fewer restrictive clauses and more occurrences of rule replacement and termination. This observation aligns with the fact that the German offsetting scheme is not utilized for the

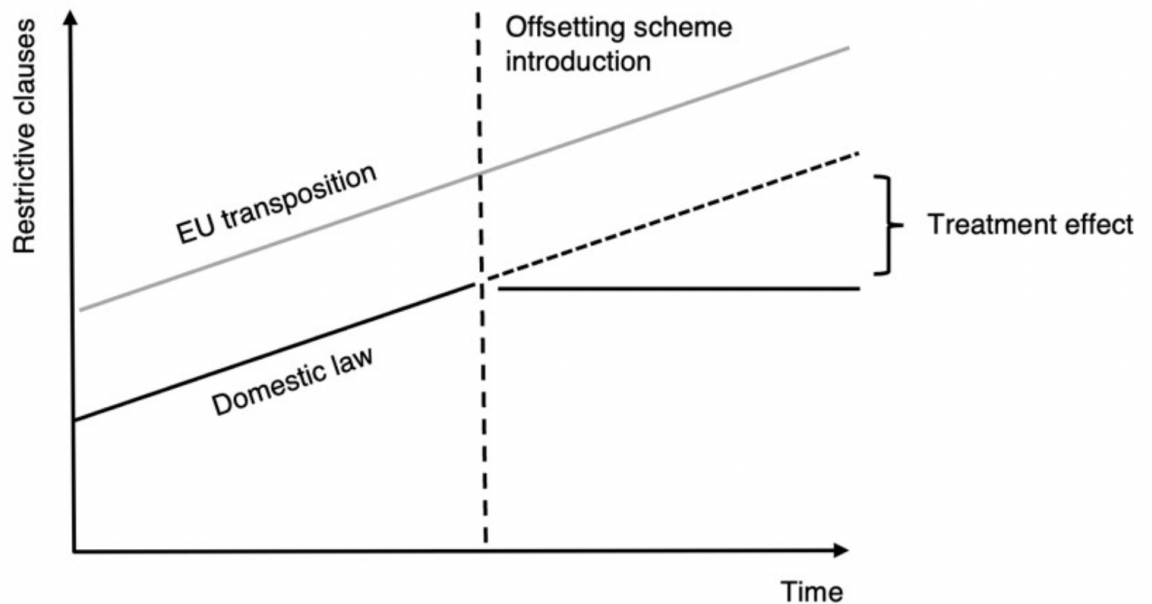
transposition of EU law. Yet, it might also indicate that transposing EU law typically involves a greater regulatory burden compared to regulations originating from the domestic level.

Difference-in-difference analysis: Exploring the counterfactual scenario

Thus far, our cumulative findings suggest that the introduction of the offsetting scheme may not have achieved its intended effects. We observe that neither the number of restrictive clauses has significantly decreased, nor has there been a significant increase in the number of abolished or replaced text pieces. This finding is confirmed when controlling for political and institutional factors that might affect changes in regulatory burden beyond the presence of offsetting schemes. Yet, neither our descriptive nor our later hierarchical analysis provides us with a true counterfactual understanding of how the laws might have evolved without the scheme. To refine our findings further, we thus exploit an additional aspect of the German offsetting scheme: its application to domestic legal acts, while excluding EU transpositions.

This exclusion enables us to perform a difference-in-difference analysis. Specifically, by comparing changes in domestic legal acts affected by the offsetting scheme (treatment group) against EU transposition laws unaffected by the scheme (control group), we can isolate the specific effect of the offsetting regulation. This logic is illustrated in *Figure 3* for the anticipated effect on restrictive clauses. For abolished or replaced text pieces, the expected outcome would be the inverse, resulting in a steeper, rather than flatter, slope following the introduction of the offsetting scheme.

Figure 3: The Diff-in-Diff Logic to Assess the Impact of Regulator Offsetting Schemes



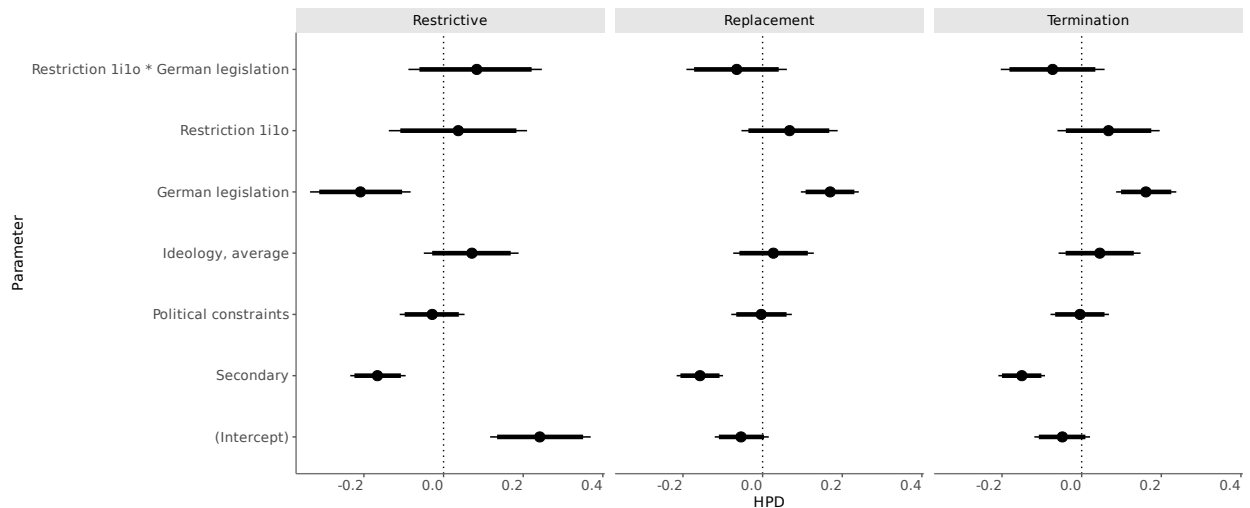
Note: The grey solid line represents the restrictive clauses resulting from the EU transposition over time. The black solid line illustrates the observed trajectory of domestic laws before and after the implementation of the regulatory offsetting scheme. The dashed black line depicts the counterfactual scenario, showing how we can expect the restrictive clauses to develop in the absence of the offsetting scheme.

Essentially, this analysis relies on the assumption that EU legislation can approximate national-level legal developments. While this is a strong assumption, it is crucial to recognize that EU directives are not transposed identically across all member states. Instead, research has shown that national administrations frequently adapt EU directives to align with their specific legal and national contexts (Thomann & Zhelyazkova 2017). Consequently, national laws transposing EU directives can be seen as indicative of evolving trends in national public policy-making. In the online appendix, we demonstrate that there are indeed no significant differences between the trends in national legislation and EU transposition during the pre-treatment period (see *Figure S3.1* to *Figure S3.3*). We thus can confidently claim that the main assumption in the diff-in-diff analysis, namely parallel trends assumption, is confirmed for our case.

In our case, we can implement the difference-in-difference approach through an interaction between the time period (before and after 2015) and the type of legislation (domestic

law versus EU transposition). If the one-in-one-out scheme is effective, it should impact the number of restrictive clauses and the termination and replacement sentences in domestic regulations but not in EU legislation, which is excluded from the scheme. As a result, we should observe a significant interaction effect between these two variables.

Figure 4: Determinants of policy-making patterns (diff-in-diff).



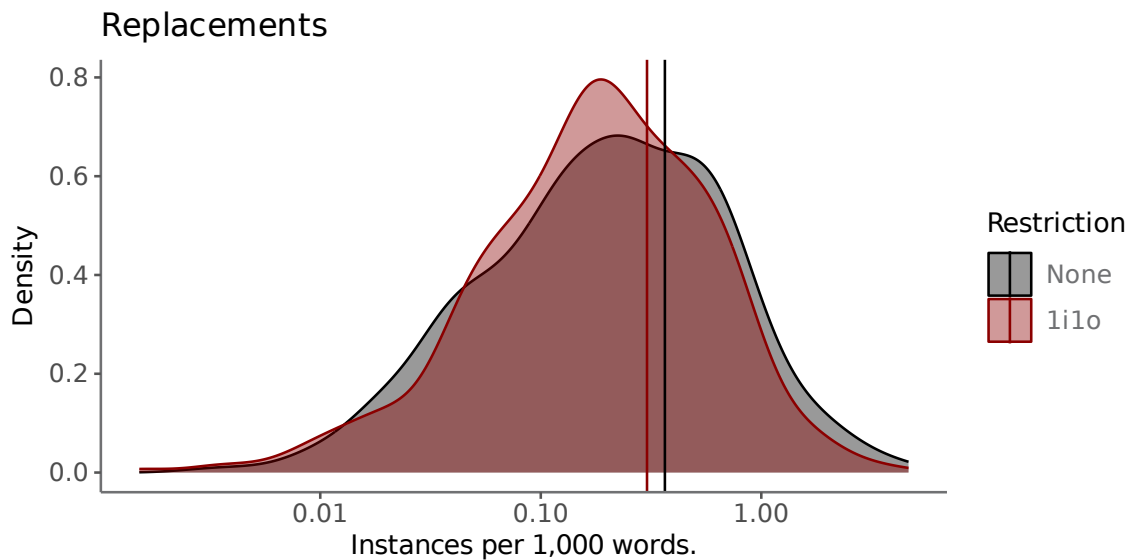
Note: Highest posterior densities (HPD) of the main parameters of interest (β) (95% credible interval). All parameters are standardized.

As shown in *Figure 4*, the interaction is not significant for all three variables. This means that there is no observed difference between the treatment group (domestic) and the control group (EU transactions) in the time after the scheme was introduced. In essence, this implies that the scheme was ineffective in altering the patterns of policy-making.

One potential reason for not observing an effect is that our measurements may lack the nuance needed to capture more subtle differences. For example, simply assessing the number of replaced and terminated text pieces might obscure changes if longer or more complex articles are being repealed. To explore this possibility, we conducted additional analyses. We examined the size of the replaced and terminated legal texts by counting the number of paragraphs using the “§” symbol within these text pieces. The paragraph symbol typically signifies a specific

section or provision within a legal statute or document in the German law. By tendency, the more “§” are detected, the longer and more complex a law can be considered to be. As shown in *Figure 5*, there are no substantial differences in the number of paragraphs within these replaced and terminated legal texts before and after introducing the one-in-one-out scheme. This (again) indicates that the one-in-one-out scheme did not result in significant changes in the complexity or length of the legal texts being replaced or terminated.

Figure 5: Distribution of replacement clauses.



Note: The figure shows the distribution of replacement clauses, measured by the number of clauses per 1,000 words. It differentiates between two periods: the dark grey area represents legal acts produced before the introduction of the "one-in-one-out" scheme, while the red area highlights policies adopted after its implementation.

5. Discussion

The cumulative evidence presented indicates that the introduction of the one-in-one-out rule had no real impact on rule growth in Germany. The reliance on regulatory offsetting as a device of governmental self-binding did not result in any observable effects. But why did the scheme fail? In section 2, we discussed a variety of reasons for failures of governmental self-binding strategies. These factors might also have played a role in undermining the effectiveness of the German offsetting scheme.

First of all, it is highly doubtful whether short-term temptations to realize electoral gains through rule production can be effectively “tamed” through a central scheme or type of metagovernance. From a policymaker’s perspective short-term gains weigh out potential long-term losses. Policies are typically created to address societal needs and technological advancements (Orren & Skowronek 2017). Furthermore, different rules are often utilized to facilitate compromises and drive initiatives forward (Hurka 2023). Consequently, the notion that a central scheme could reduce or limit rule production is in essence an endeavor to restrain the primary mechanism governments use to tackle problems. The same critique applies to the “offsetting” component. It is well-established in political science that abolishing rules is not the “simple mirror image” (Pierson 1994: 29) of creating them. Originally identified in the context of welfare state expansion and retrenchment, later research has found that a similar phenomenon also exists in other policy areas (see e.g. Bauer, et al. 2014). Once a rule is established, it generates stakeholders who have a vested interest in its continuation (Moe 2015). While some rules may become obsolete and can be phased out with relative ease, governments are likely to quickly encounter situations where the abolishment of rules itself becomes a political issue. Our finding that the introduction of the offsetting scheme did not have an effect on rule growth in the German case serves as a testament to the fact that deeply ingrained political dynamics are unlikely to be altered by technocratic self-binding devices.

Second, the lack of effective enforcement devices reinforces the above argument. The German offsetting scheme is not enforced and monitored by an “external body” with corresponding sanctioning powers. The task of the German Normenkontrollrat is to review the draft laws of the federal government to assess whether the costs have been presented in a methodologically sound and understandable way. This implies that this body has merely advisory functions. Apart from this, compliance with the offsetting scheme is the task of the respective ministries. For the latter, several possibilities exist to escape the provisions of the

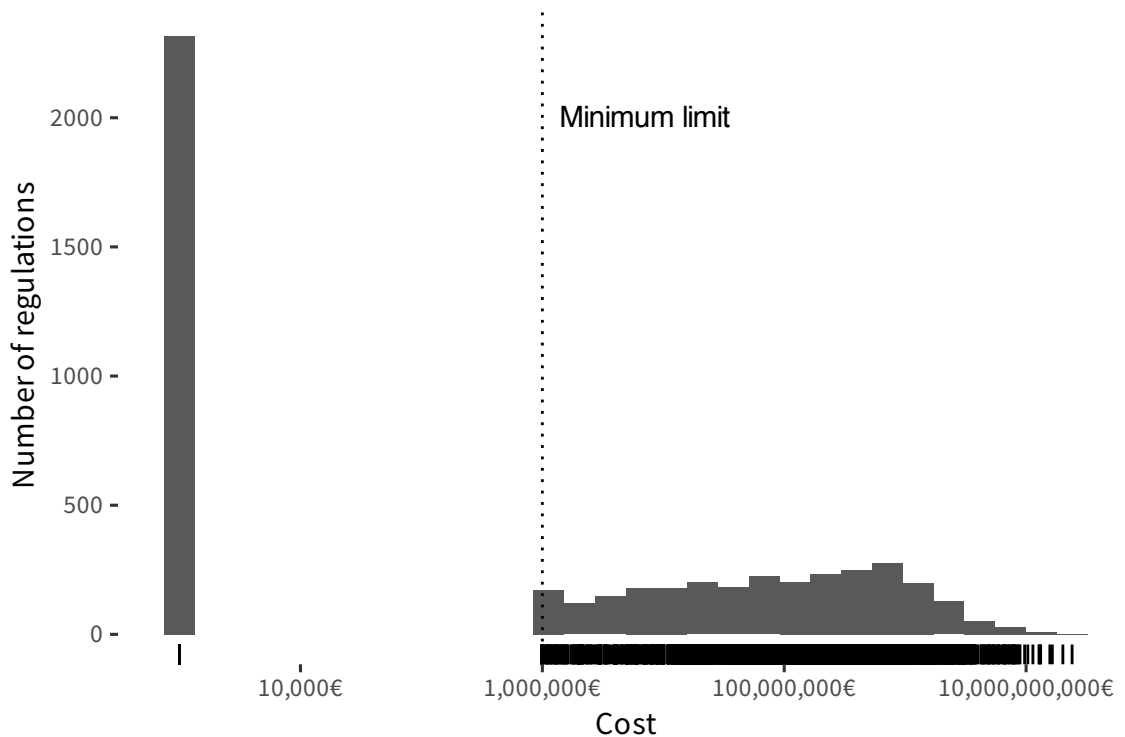
scheme, in particular because the scheme allows the “trading” of burdens between ministries and across different time periods. In other words, if a particular ministry cannot provide a rule it intends to abolish to introduce a new one, it can request that other ministries do so on its behalf. These compensations do not need to occur immediately but can be executed over the course of up to one year. It is questionable whether anyone effectively monitors the shifting of burdens between ministries and over time, especially if, for instance, a change in government occurs within that time frame.

Finally, the lack of an encompassing evaluation of the impact of the scheme on regulatory burden undermines the effectiveness of the German “one-in-one-out” rule. From the outset, the German evaluation approach to assess compliance costs seems to be highly encompassing and ambitious. Yet, this detailed approach suffers from shortcomings in its practical application. To manage the labor-intensive and resource-demanding data collection process more effectively, a threshold is applied: compliance costs are only calculated when the total costs exceed one million euros. For estimated costs below this *de minimis* threshold (“Bagatellgrenze”), no detailed calculations are required (for a more detailed discussion on the monitoring scheme, see Kuhlmann & Gerls 2024).

Figure 6 illustrates this pattern. The graph shows the distribution of the number of legal measures (Y-axis) based on their associated costs (X-axis), as recorded in the German compliance costs database (OnDea). Measures with expected compliance costs below the one million euros threshold are excluded from this depiction; such costs are simply estimated as being “zero.” However, if we assume that the measures not accounted for average around half of the threshold value (i.e., approximately 500,000 euros), the unrecorded total costs would amount to about 60% of the actual recorded costs. Remarkably, this discrepancy occurs even when we assume that lawmakers have *no* strategic incentives to design new proposals that fall just below the threshold. This significant discrepancy between the recorded and the estimated

(potential) total costs underscores that a considerable portion of the regulatory burden remains unaccounted for. By measuring only those costs that exceed a certain threshold, it is possible that a significant portion of the burden created by new regulations remains undetected, only becoming apparent when alternative measurement approaches, such as our text-as-data method, are used.

Figure 6: Distribution of Legal Acts by Compliance Costs



Note: For the left bar, the precise value is unknown and is merely assumed to be zero by the German compliance costs database (OnDea).

6. Conclusion

Governments in advanced democracies have increasingly engaged in self-binding devices in order to strike a balance between short-term political gains from engaging in rule production and long-term problems of accumulating rule stocks. In this regard, the adoption of regulatory offsetting schemes, through which governments prescribe themselves a cap on rule production – have gained prominence. Yet, effective self-binding is a highly challenging endeavor for various reasons, including not only strong political temptations for non-compliance, but also the

lack of external enforcement mechanisms and the difficulty to systematically evaluate the effectiveness of self-binding commitments.

Against this backdrop this paper provided a detailed assessment of the effectiveness of regulatory offsetting schemes in the case of Germany. Employing a text-as-data approach to over 500 laws adopted in Germany between 2010 and 2020, our analysis reveals that the initiative has *not* achieved its intended goals. Specifically, the scheme has neither significantly reduced the number of new restrictive provisions nor increased the frequency of abolished or replaced regulations. These findings challenge the premise that regulatory offsetting can serve as an effective tool to streamline governmental regulations.

There are several potential explanations for this ineffectiveness. First, the political realities of advanced democracies—where governments face strong pressures to respond to societal demands—render it difficult to prioritize regulatory reduction over new policy initiatives. This highlights a fundamental tension between the technical design of regulatory offsetting and the broader political and institutional dynamics within which such schemes are supposed to operate. Second, inaccuracies in the monitoring system may undermine the scheme’s ability to provide accurate assessments of regulatory burdens, thereby weakening the incentives for policymakers to adhere to offsetting principles. Third, the absence of sound evaluation approaches further reduces the prospects of political compliance.

The findings have significant implications for policymakers and scholars. For policymakers, they underscore the need for more robust monitoring systems and a rethinking of how regulatory offsetting schemes are integrated into the broader policymaking process. For scholars, this study highlights the importance of further investigating the conditions under which such schemes might achieve their objectives and the unintended consequences they may produce. Future research should further investigate the political and institutional factors that may shape the effectiveness of offsetting schemes.

In conclusion, while regulatory offsetting schemes hold theoretical appeal as a means of balancing policy innovation with regulatory restraint, our analysis of the German case suggests that such approaches may be ill-suited to address the complex realities of modern regulatory governance. Efforts to streamline regulations must therefore account for both the technical limitations of offsetting mechanisms and the political contexts in which they operate.

References

- Adam, C., Hurka, S., Knill, C. & Steinebach, Y. (2019). Policy Accumulation and the Democratic Responsiveness Trap. Cambridge: Cambridge University Press.
- Ash, E., Morelli, M., & Vannoni, M. (2024). More laws, more growth? evidence from us states. *Journal of Political Economy*.
- Bauer, M. W., & Knill, C. (2014). A Conceptual Framework for the Comparative Analysis of Policy Change: Measurement, Explanation and Strategies of Policy Dismantling. *Journal of Comparative Policy Analysis: Research and Practice*, 16(1), 28-44.
- Bauer, M. W. et al. (Eds.). (2012). *Dismantling Public Policy: Preferences, Strategies, and Effects*. Oxford, Oxford Academic.
- Botero, Juan, Simeon Djankov, Rafael LaPorta, Florencio López-de-Silanes, and Andrei Shleifer. 2004. "The Regulation of Labor." *Quarterly Journal of Economics* 119 (4): 1339-1382.
- Deutsche Bundesregierung (2023). *Weniger, einfacher, digitaler Bürokratie abbauen. Deutschland zukunftsfähig machen.*
<https://www.normenkontrollrat.bund.de/Webs/NKR/SharedDocs/Pressemitteilungen/DE/2023/2023-11-20-nkr-jahresbericht-2023.html>
- Di Vita, G (2017), "Institutional quality and the growth rates of the Italian regions: The costs of regulatory complexity", *Papers in Regional Science* 97(4): 1057-1081.
- Donelan, E. (2022). *Regulatory Governance: Policy Making Legislative Drafting and Law Reform*. London: Palgrave Macmillan.
- Döring, H., & Manow, P. (2020). ParlGov 2020 release. Harvard Dataverse: <https://doi.org/10.7910/DVN/Q6CVHX>.

Elster, J. (1979). *Ulysses and the Sirens: Studies in Rationality and Irrationality*. Cambridge: Cambridge University Press.

European Commission (2023). The “one in, one out” principle: A real better lawmaking tool? [https://www.europarl.europa.eu/RegData/etudes/STUD/2023/753421/IPOL_STU\(2023\)753421_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2023/753421/IPOL_STU(2023)753421_EN.pdf)

Falck, O., Mo Guo, Y. and Pfaffl, C. (2024) «Lost Economic Output Due to High Bureaucratic Burden.» *EconPol Forum* 25 (6), 30-35

Fernández-i-Marín, X., Hinterleitner, M., Knill, C., & Steinebach, Y. (2023). Bureaucratic Overburdening in Advanced Democracies. *Public Administration Review*.

Goldberg, Elizabeth, "The Jury Is Still Out on One-In-One-Out" (2020). *The Regulatory Review* - Opinion. 459.

Haag, M., Hurka, S. and Kaplaner, C. (2024), Policy complexity and implementation performance in the European Union. *Regulation & Governance*.

Henisz, Witold J. 2000. “The Institutional Environment for Economic Growth.” *Economics & Politics* 12 (1): 1–31.10.1111/1468-0343.00066

Hinterleitner, Markus (2020). *Policy Controversies and Political Blame Games*. New York: Cambridge University Press.

Hurka, S., Haag, M., & Kaplaner, C. (2022). Policy Complexity in the European Union, 1993Today: Introducing the EUPLEX Dataset. *Journal of European Public Policy*, 29(9), 1512– 1527.

- Hurka, S. (2023). The Institutional and Political Roots of Complex Policies: Evidence from the European Union. *European Journal of Political Research*, 62, 1168-1190.
- Jakobsen, M.L.F. and Mortensen, P.B. (2015), How Politics Shapes the Growth of Rules. *Governance*, 28: 497-515.
- Jordana, J., X. Fernández-i-Marín, and A. C. Bianculli (2018). Agency proliferation and the globalization of the regulatory state: Introducing a data set on the institutional features of regulatory agencies. *Regulation & Governance* 12 (4), 524-540.
- Manow, O. and Burkhart, S. (2007), Legislative Self-Restraint Under Divided Government In Germany, 1976–2002. *Legislative Studies Quarterly*, 32: 167-191.
- Kaplaner, C., & Steinebach, Y. (2023). Coping Practices and the Spatial Dimension of Authority Design. *Public Administration Review*, 1–14.
- Kuhlmann, K. & Gerls, F. (2024) Die Kosten der Bürokratie: Zwischen Messung und Realität. ifo Schnelldienst 11/2024: Kosten der Bürokratie.
- Lauber, K., & Brooks, E. (2023). Why Meta-Regulation Matters for Public Health: The Case of the EU Better Regulation Agenda. *Globalization and Health*, 19(1), 70.
- Moe, T. M. (2015) Vested Interests and Political Institutions. *Political Science Quarterly*, 130(2): 277–318.
- Nationaler Normenkontrollrat (2019). Weniger Bürokratie, bessere Gesetze: Praxis mitdenken, Ergebnisse spürbar machen, Fortschritte einfordern. Jahresbericht 2019. <https://www.unipotsdam.de/fileadmin/projects/ls-kuhlmann/NKR/Jahresberichte/2019-10-22-nkrjahresbericht-2019-des-nationalen-normenkontrollrates-data.pdf>
- Nou, J., & Stiglitz, E. H. (2019). Regulatory bundling. *The Yale Law Journal*, 1174-1245.
- Orren, K., & Skowronek, S. (2017). *The Policy State*. Cambridge, MA: Harvard University

Press.

Pierson, Paul. 1994. *Dismantling the Welfare State? Reagan, Thatcher, and the Politics of Retrenchment*. Cambridge: Cambridge University Press.

Pircher, B. (2023). *The EU's Commission Regulatory Scrutiny Board: Better Regulation or Biased Influence on Legislation?* AK Wien, Abteilung Europa und Internationales und Lobby Control.

Peters, B. Guy (2021). *Administrative Traditions: Understanding the Roots of Contemporary Administrative Behavior*. Oxford: Oxford University Press.

Radaelli, C. M. (2007). *Whither Better Regulation for the Lisbon Agenda?* *Journal of European Public Policy*, 14(2), 190-207.

Radaelli, C. M., & de Francesco, F. (2010). *Regulatory Impact Assessment*. In Baldwin, R., Cave, M., & Lodge, M. (Eds.), *The Oxford Handbook of Regulation*. Oxford: Oxford University Press.

Rubin, E. V., & Weinberg, S. E. (2014). *Does Changing the Rules Really Matter? Assessing Procedural Justice Perceptions Under Civil Service Reform*. *Journal of Public Administration Research and Theory*, 26(1), 129-141.

Seawright, J., and Gerring, J. (2008). *Case Selection Techniques in Case Study Research: A Menu of Qualitative and Quantitative Options*. *Political Research Quarterly*, 61(2), 294-308.

Simonelli, F., and Iacob, N. (2021). *Can We Better the European Union Better Regulation Agenda?* *European Journal of Risk Regulation*, 12(4), 849–860.

Staroňová, K. (2010). *Regulatory Impact Assessment: Formal Institutionalization and Practice*. *Journal of Public Policy*, 30(1), 117-136.

- Steinebach, Y., Hinterleitner, M. and Fernández-i-Marín, X. (2024). “Regulatory Offsetting in Advanced Democracies.” *Public Administration Review* 1–14.
- Shapiro, S. (2020). “Making Sense of the Trump Administration’s Regulatory Numbers.” *The Regulatory Review*. <https://www.theregreview.org/2020/01/14/shapiro-makingsense-trumpadministration-regulatory-numbers/>
- Shapiro, S. (2024). “Counting regulations and measuring regulatory impact: a call for nuance.” *Humanities & Social Science Communications* 11, 1463.
- Thomann, E., & Zhelyazkova, A. (2017). Moving beyond (non-)compliance: the customization of European Union policies in 27 countries. *Journal of European Public Policy*, 24(9), 1269–1288.
- Zink, D., Knill, C. and Steinebach, Y. (2024), Bureaucratic overload and organizational policy triage: A comparative study of implementation agencies in five European countries. *Regulation & Governance*.
- Xanthaki, H. (2023). “The 'one in, one out' principle – A real better lawmaking tool?” Impact Study requested by the JURI committee. [https://www.europarl.europa.eu/RegData/etudes/STUD/2023/753421/IPOL_STU\(2023\)753421_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/STUD/2023/753421/IPOL_STU(2023)753421_EN.pdf)