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SPECIAL ISSUE ARTICLE OPEN ACCESS

More Policies, More Work? An Epidemiological Assessment of Accumulating Implementation Stress in the Context of German Pension Policy

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ABSTRACT

Research on policy accumulation established the hypothesis about a creeping divergence between implementation burdens and implementation capacity. This paper revisits this hypothesis using improved measures of implementation burden. Using official data on administration and enforcement costs, it finds that policy accumulation does raise implementation stress within the German Statutory Pension Insurance, analyzed as a least-likely case to do so. This finding supports the “implementation-gap hypothesis.” More generally, however, the paper serves as a “prove of concept” of how to adopt an epidemiological perspective within implementation research. This perspective is characterized by systematically capturing the changing prevalence of implementation stress within administrative organizations. It enables future research on how to deal with policy growth more effectively by raising awareness for whether and where implementation burden and capacity diverges strongly, and by helping to identify “best practice” cases able to cope with this divergence successfully.

1 | Introduction

The fact that policy implementation crucially determines policy success is well documented (e.g., Falkner et al. 2005; Hargrove 1975; Howlett 2019; Hupe 2014; Lipsky 1980; Martinsen et al. 2019; Mayntz 1977; Mazmanian and Sabatier 1983; Pressman and Wildavsky 1973; Saetren 2005, 2014; Thomann 2019; Van Meter and Van Horn 1975). The lack of administrative capacity, in particular, is often discussed as one of the main sources of implementation problems (Börzel et al. 2010; Chayes and Chayes 1993; Chayes, Chayes, and Mitchel 1995; Howlett and Ramesh 2016; Knill and Hille 2006; König and Mäder 2013; Mbaye 2001; Pridham 1994). Findings supporting this argument usually take the following cross-sectional form: In places with lower administrative capacity, implementation performance is worse.

More recently, however, research on policy accumulation re-directs our attention from the conventional cross-sectional

perspective on administrative capacity over to longitudinal assessments of the relationship between administrative capacity and implementation problems. This line of research describes policy accumulation and rule growth as a surprisingly uniform trend across modern democracies and policy sectors (Adam, Knill, and Fernandez-i-Marín 2017; Adam et al. 2019; Limberg et al. 2021) and argues that even in countries with relatively high levels of administrative capacity, the coincidence of continuous policy growth and stagnating or even declining employment within public administration has set in motion a creeping erosion of the administrative ability to adequately implement policies. More specifically, it is argued that the continuous expansion of policy portfolios by policymakers generates accumulating implementation burdens for the stagnant (or declining) number of policy implementers at the bureaucratic frontline. Consequently, the predisposition for precarious, selective, and problematic policy implementation is argued to have been continuously increasing within democracies across the world (Adam et al. 2019). This undermines achieving policy objectives

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(Limberg et al. 2021) and makes “policy triage” inevitable (Knill, Steinebach, and Zink 2023).

This hypothesis about a growing gap between implementation burdens and administrative capacity induced by policy accumulation is worrying. Yet, its empirical foundation suffers from several conceptual shortcomings as it relies on rather indirect approximations of implementation burdens, which is essentially equated with policy accumulation (e.g., Adam et al. 2019). This approach is problematic for several reasons. First, policy growth cannot be equated with an increase in implementation burden for public administrations because many policies are essentially implemented, applied, and even enforced by private actors. Second, some additions to policy portfolios are much more burdensome to implement than others. Third, even the stagnation of public sector employment in the national aggregate does not rule out the possibility that administrative capacity is shifted to areas where implementation burdens accumulate most. Finally, the approach does not account for the current level of productivity within public administration. It is therefore an open question of whether the coincidence of policy accumulation and stagnating public sector employment in the national aggregate do generate implementation problems because of continuously increasing the administrative workload per employee.

This paper revisits the implementation-gap hypothesis within a case study on the Statutory Retirement Insurance in Germany (*Deutsche Rentenversicherung*), which represents a least-likely case for an implementation gap to unfold. Thereby, it contributes to research on policy accumulation and policy implementation by supporting for the implementation-gap hypothesis based on improved empirical measurements in a previously unexamined case.

Moreover, the paper serves as a “proof of concept” to show how a conceptual shift from implementation performance of individual policies to a focus on organizational implementation stress can be used successfully to bring an epidemiological perspective to policy implementation research. Descriptive epidemiology as a discipline within public health research estimates how frequent certain health conditions are within a specific population and how their prevalence and incidence changes over time (Albanese 2016). It provides the foundation of any subsequent causal inquiry into “why” certain conditions—e.g., obesity—become more or less prevalent. While implementation research is crucially interested in why implementation problems emerge, it continues to lack such a descriptive core and the ability to describe how prevalent different phenomena related to implementation actually are within different countries, policy sectors, or administrative contexts. This paper demonstrates how to systematically capture the development of implementation stress within a specific administrative context. In other words, it shows how to bring descriptive epidemiology into implementation research.

2 | Growing Implementation Gaps: Hypothesis, Conceptual Challenges, and Solution

Modern democracies have proven to be remarkably productive at making rules. Yet, at the same time, democracies tend to

struggle with terminating existing rules (Adam and Bauer 2018; Bauer et al. 2012). The result of this skewed skill-set has been described in various research contexts as an expansion in the volume of law (Goanta 2017), complex and multilayered polycsapes (Mettler 2016), increasingly complex policy-mixes (Howlett and Del Rio 2015), rule growth (Kaufmann and van Witteloostuijn 2016), and policy accumulation (Adam et al. 2019).

While policy research focuses very much on policymaking as a process of policy change, empirically, such changes to not merely substitute old policies for new ones. Instead, new and additional policies are typically woven into and layered on top of established policy portfolios.

Adam et al. (2019) argue that rule-makers and rule-implementers play very different roles within this process of rule growth. While policy-makers feel pressure to respond to societal demands and problems, the new rules they create are off their desks as soon as they are adopted. Yet, implementation burdens that come with these new rules and with all previously adopted rules accumulate on the desks of the implementers; often at the administrative frontline. As a result of continued rule growth resulting from this accumulation process, the administrative workload needed to implement, monitor, and enforce these rule-sets at the administrative frontlines has substantially increased and complexified in many policy contexts (Adam et al. 2019; Knill, Steinebach, and Zink 2023; Limberg et al. 2021).

At the same time, many democracies have been actively trying to downsize their public sectors and have trimmed their organizations for efficiency rather than effectiveness. This has not only come in the form of organizational reform and management tools (Pollitt and Bouckaert 2011); it has also manifested itself in many countries in the form of stagnating or even decreasing employment within public administration (International Labour Organization 2019). Because of these coinciding developments, a lower number of public administrators have to cope with an increasing level of workload (Bogumil et al. 2018; Bogumil and Seuberlich 2016). In summary, two important macro-trends coincide within Western democracies: accumulating policy stocks are becoming more cumbersome to implement, monitor, apply, and enforce, while these exact tasks are carried out by fewer and fewer people. Such a growing gap between burdens and capacity should eventually lead to an increasing prevalence of incorrect, delayed, inequitable, and ineffective implementation (e.g., Knill, Steinebach, and Zink 2023; Limberg et al. 2021).

Unfortunately, policy implementation research continues to lack the conceptual tools to capture the prevalence of implementation problems. Research on the national implementation of EU law aspired to measure the prevalence implementation deficits by using the number of infringement proceedings initiated by the European Commission against individual member states (e.g., Börzel et al. 2010). Yet, this indicator was soon shown to suffer from a crucial lack of validity (Hartlapp and Falkner 2009).

However, testing the implementation-gap hypothesis does not necessarily require a systematic assessment of the prevalence of implementation problems. This is because, at its core, the hypothesis postulates a creeping divergence between implementation

burdens and implementation capacity. Therefore, it is primarily a hypothesis about rising organizational implementation stress caused by two largely disconnected yet largely well-intended processes: A strive for better policies often results in more comprehensive and complex policy portfolios, while a strive for a lean and efficient public sector can undermine its capacity to be and remain effective. A test of this hypothesis therefore requires, above all, a valid measure of the extent to which policy reforms influence the workload per employee of administrative organizations. Increasing workload per employee represents an increase in implementation stress within the organization: Employees need to get done more within their working time.

So far, the conceptual tools and data used within policy accumulation research to develop the implementation-gap hypothesis cannot capture the policy-induced development of organizational implementation stress. Conceptually, these approaches strongly rely on the assumption that adding policy elements to a policy portfolio increases rather than decreases the burden of implementing this portfolio for the competent administrative organization. This assumption is plausible but entails problems. First, not every policy element, which is added to an existing policy portfolio, creates the same amount of additional implementation burden. For example, it is unclear how introducing a one-time lump sum payment to families after the birth of a child compares—in terms of administrative workload—to the introduction of a maximum emission limit for certain heating systems. While in both examples, one additional policy element is added to an existing policy portfolio, it seems plausible to assume that each element imposes implementation burdens of different magnitude.

Second, the mere accumulation of more policy elements does not necessarily increase administrative implementation burdens for organizations within public administration. For example, the *European Directive on Transparent and Predictable Working Conditions*, which entails the requirement to provide written work contracts for all employees before they start a new job, is mainly an administrative burden imposed on employers and has little effect on the work of frontline bureaucrats inside of public administration.

Third and relatedly, if implementation burdens are created for the administrative system, it is important to assess where implementation burdens accumulate specifically. A mere aggregate assessment of employment within the entirety of a country's public administration or of a country's overall administrative capacity bears the risk of remaining blind to relevant re-allocations of resources. For example, even if employment stagnates, growing implementation stress could be prevented if an administrative personnel is reallocated from areas with relatively low workload to areas where the increase in implementation burdens is particularly pronounced. After all, Regulatory Control Councils are measuring compliance costs, not just for businesses but also for public administration (Dunlop and Radaelli 2017; Zeitz 2016). This might help to prevent dangerously increasing gaps between implementation burden and administrative capacity.

Finally, identical policy elements do not create the same level of annual implementation burdens if they are introduced at different points in time. Simply put, implementing a hypothetical law

requiring recalculating retirement benefits for a large group of current and future retirees involved more work in the analogue world of 1970 than in the digital world of 2024. A measure of policy-induced implementation burdens must account for the current level of productivity of administrative organizations, especially when working with long observation periods.

This discussion underscores the problems that arise when trying to measure the development of implementation gaps by simply equating the extent of policy accumulation with the extent of accumulating implementation burdens. Rather than equating the two, we need to measure the actual extent of accumulating implementation burdens created by policy accumulation. This will help us move from plausible assumptions about an increasing implementation gap to a thorough test of the implementation gap hypothesis. The key analytical challenge to assess this hypothesis is therefore one of appropriate measurement and to a much lesser degree one of causal attribution.

This paper demonstrates how official data on administrative labor costs associated with administration and enforcement of individual pieces of legislation help testing this hypothesis. It showcases this approach in the context of German pension policy. Yet, the same approach can be used to study the trajectory of implementation stress within other policy sectors and within other countries.

Capturing the costs of complying with legislation has become standard practice in many countries as part of regulatory impact assessments promoted by the OECD (OECD 2014). Overall compliance costs are determined by a wide variety of different cost categories. Administration and enforcement costs are one of these categories and capture the “costs incurred by government in administering and enforcing the regulatory requirements” defined within legislation (OECD 2014, 13). As such, they can include costs created by the need for “publicizing the new regulatory requirements, establishing licensing or permit systems, dealing with queries from regulated entities and the public, processing applications, implementing inspection/audit programs, or sanctioning non-compliance” (OECD 2014, 13).

Total administration and enforcement costs include costs of material and equipment, as well as labor costs of implementation. Material and equipment expenses reflect costs of external service providers, of acquiring or updating communication technology required for implementation, or of the renting of vehicles and office buildings required for implementation. While these costs also partly reflect administrative workload associated with reforms (e.g., work needed to align software used to calculate pension benefits with new legislative requirements), this workload hardly affects implementation burdens and stress for employees inside the organization due to external contracting.

In contrast, administrative labor costs, as the second—and often main—constitutive part of administration and enforcement costs, provide a unique opportunity to directly assess implementation burdens and test the implementation-gap hypothesis. These labor costs have several advantages over conventional measures used to assess the implementation gap hypothesis. First, they directly reflect anticipated implementation burdens created by reforms and can be directly expressed in terms of

additional staff needed for implementation and organizational implementation stress. Wherever the number of employees required diverges from the number of available employees, organizations experience growing implementation stress: that is, more workload per employee. Second, this data allows for assessments of where administration and enforcement costs fall within the public sector as estimates usually indicate explicitly which administrative organization is affected. Third, cost estimates reflect the current level of administrative productivity in the respective area. Fourth, this data can be used to assess the development of administrative compliance costs at scale (i.e., for many reforms) with relatively low investment of research resources. Finally, the OCED's attempts to harmonize the practice of measuring compliance costs provides a chance for future research to conduct international comparisons based on this indicator.

3 | Data and Methods

This paper analyzes pension policy as implemented by the Statutory Pension Insurance in Germany (*Deutsche Rentenversicherung*) as a least-likely case of increasing implementation stress resulting from policy accumulation. The assessment of the implementation-gap hypothesis mainly relies on official legislative acts, which entail data on administration and enforcement cost estimates, as well as detailed descriptions of the specific aspects of the reform that affect these costs. These documents specify which provisions of the legislative reforms affect the organization's workload. This information is extracted and used to calculate (a) the development of aggregated administrative and enforcement costs per employee and (b) to see whether additional costs derive from instances of policy accumulation. This information is complemented with semi-structured qualitative expert interviews that serve as plausibility probes for the results regarding (a) and (b).

3.1 | Case Selection

Technically, the German Retirement Insurance is a collective of interwoven organizations consisting of two federal units (*Rentenversicherung Bund*; *Rentenversicherung Knappschaft-Bahn-See*) and 16 regional units (e.g., *Rentenversicherung Baden-Wuerttemberg*). Together, this network of organizations manages all aspects of the statutory pension system in Germany within the legal framework provided by the federal legislature. They provide informational and consulting services for insured people and employers, manage all case files, payments, and complaints.

This structure is, however, mainly a legacy of the past. Today, these constituent units neither have regional monopolies over insured people (i.e., individuals living in *Baden-Wuerttemberg* are not necessarily managed by the *Rentenversicherung Baden-Wuerttemberg*) nor are they functionally independent from the other organizations. For example, the *Rentenversicherung Bund* has a dual function by not only providing the same services to insured individuals as the regional units (consulting, case authorization, payments, complaints, etc.) but it is also responsible for the development of an overall organizational strategy

and coordinates cross-cutting functions for regional units. The German Statutory Retirement Insurance is therefore technically still a collective of several organizational units. Yet, due to the extent of partial integration and function-sharing, this collective is best understood as “one administrative organization” responsible for the management of the German pension system. Consequently, and for the sake of simplicity, this paper refers to this collective as “the Retirement Insurance.”

This empirical focus is selected for several reasons. First, since the objective of this paper is to re-evaluate the implementation-gap hypothesis based on different data, it is essential to do so in one of the policy areas for which this hypothesis has initially been developed; that is, environmental policy, morality policy, and social policy. This ensures the comparability of results. Second, this context is a least-likely context for growing implementation stress because of policy accumulation. This is not only because the Retirement Insurance has been operating within a more saturated policy sector with a more limited extent of recent policy accumulation for over 130 years but also because the Retirement Insurance is not part of the hierarchically integrated public administration system in Germany; rather, it is a self-governing entity. Its main bodies are the assemblies of representatives (*Vertreterversammlungen*) and the board of directors. Each body consists of 50% representatives of insured individuals (employees) and 50% representing employers. While the Retirement Insurance operates within a very comprehensive legislative frame, it remains largely independent in its decisions regarding administrative costs and staff.

This independence was temporarily constrained between 2005 and 2010 when—as part of a larger organizational restructuring in 2005—the German legislature legally required the Retirement Insurance to lower overall administrative costs by about 350 million EUR until 2010. However, this formal saving requirement expired. Today, the organization is only required to issue informational reports on internal benchmarking regarding administrative costs and active attempts to improve efficiency to the Federal Department for Work and Social Affairs (Klenk 2005). Throughout the observation period of this study, the Retirement Insurance has therefore been independent in its decisions to hire additional staff. Moreover, since it does not have a profit motive, it should have only marginal incentives to systematically save costs by downsizing administrative staff. Finally, where administrative problems of the Retirement Insurance reach the public, they are typically attributed to demographic change—that is, the baby boomer generation entering retirement—and not to policy accumulation.^{1,2} In combination, these factors make the Retirement Insurance a least likely organization to suffer from creeping increases in implementation stress due to policy accumulation.

3.2 | Measuring Implementation Burdens

Changes in the organization's implementation burden are measured with the help of official data on anticipated labor costs of administration and enforcement reported within government-sponsored bills, which are later adopted into law. Since 2011, all legislative proposals in Germany (specifically, government proposals) are required to provide estimates on the expected

administration and enforcement costs of legislation. The ministerial department leading the preparation of the bill is responsible for these ex ante estimates with the support of the Federal Statistical Office and the scrutiny of the Regulatory Control Council.

The available data on administration and enforcement costs in Germany therefore represent ex ante cost estimates rather than actual costs measured after adoption. While governments have a clear incentive to underestimate these costs within bills, empirical analyses provided by the Federal Statistical Office indicate no systematic differences between ex ante cost estimates and ex post remeasurements of the actual enforcement costs 2 years after legislative acts have entered into force (DeStatis 2024). While this supports the validity of the data, the leading role of ministerial departments in the data generating process and their incentives should be taken into account. To construct a hard test for the implementation gap hypothesis, a most conservative approach is to interpret the data as lower bound estimates of administration and enforcement costs and respective implementation stress.

These data are retrieved for every adopted federal legal act that affected the work of the Statutory Retirement Insurance. Legal acts were identified within a two-step procedure. First, this study uses the publicly available chronology of laws that affected the Retirement Insurance and published by the Insurance itself.³ This includes acts until 2015. This list was validated and extended based on a search of the German parliament's database for policy proposals including the words "compliance costs" (*Erfüllungskosten*) and "pension/retirement Insurance" (*Rentenversicherung*). Irrelevant search results were discarded based on whether the act really dealt with the work of the Retirement Insurance. With this approach, 21 relevant legislative reforms adopted between 2012 and 2019 were identified. A full list of the laws is available in [Supporting Information: Table A1](#).

Sixteen out of the 21 reforms created administration and enforcement costs for the organization. For 10 these 16 reforms, the documents only provide estimates of the overall administration and enforcement costs, which includes labor costs but can technically also entail anticipated material and equipment expenses required for implementation. For six reforms, the document explicitly provides estimates of the associated administrative labor costs. To deal with this different level of precision in the data, the empirical analysis relies on a dual strategy. In a least conservative approach, this caveat is essentially ignored as all administration enforcement costs are considered to reflect relevant workload for employees within the organization. In contrast, a most conservative approach, all administration and enforcement costs that are not explicitly labeled as labor costs are assumed to only entail material and equipment costs. While both strategies are individually overly extreme, in combination, they provide a useful way to obtain the best available way for an estimate of the range within implementation burdens developed; that is, the range between the most conservative lower bound and the least conservative upper bound.

Conceptually, the official data allow distinguishing between initial, temporary, and continuous implementation burdens

depending on whether additional workload created by the reform is restricted to the first year of implementation (initial), to the first couple of years of implementation (temporary), or continuously affects the annual workload (continuous).

3.3 | Sources of Policy-Induced Implementation Burden

The legislative documents do not only mention the extent to which workload is affected by the reform but they also explain which aspects of the legislative reform affect this workload. The source or cause of recorded changes in workload can therefore be taken directly from these documents. The contents or provisions of legislative reforms relevant for the organization's administration and enforcement costs are coded as instances of policy accumulation, change, or termination based on the following criteria: When documents indicate that enforcement costs are created by adding new tasks to the organization's portfolio, implementation burdens increase due to policy accumulation. Policy change takes place when old tasks are replaced by new tasks for the organization. The net effect of such policy (ex)change depends on whether the new tasks are more or less burdensome than the abolished tasks. Policy termination takes place when reforms terminate tasks to no longer be performed by the organization without replacing them.

3.4 | Measuring Implementation Capacity

Following the approach used for the original formulation of the implementation gap hypothesis, implementation capacity is measured as the number of employees working for the Retirement Insurance. Data on the number of the Insurance's employees—measured in full-time equivalents—is publicly available for the time since 2013.⁴ This paper only includes the Insurance's core administrative staff and ignores any kind of medical and other support staff working within rehabilitation clinics run by the Retirement Insurance.

3.5 | Measuring Implementation Stress

Implementation stress is obtained by dividing the cumulative implementation burdens by the number of full-time employees working within this organization. Since data on administrative compliance costs are not available for the time before 2012, it is not possible to capture the absolute level of implementation burden and stress of the organization. Yet, it is possible to measure their development since then by taking 2011 as a baseline.

3.6 | Expert Interviews as Plausibility Probes

The paper presents the results of seven semi-standardized expert interviews (six via phone and one in-person conducted partially by myself and partially by a student assistant) with employees working within different contexts of the Retirement Insurance. Interview partners were selected to enable speaking to a heterogeneous set of employees responsible for a most diverse set of tasks within the organization. Most of our interview partners

work at the administrative frontline focusing either directly on handling pension applications or on the provision of advice to applicants. This includes employees within the various regional branches of the organization but also voluntary (unpaid) consultants at different levels of seniority (*Versichertenberater* and *Versichertenälteste*) assisting and informing pensioners about “all things pension insurance.” While they are formally not employed by the Insurance, they traditionally play an important role in providing information and advice for (soon-to-be) pensioners, are elected by the assembly of representatives of the insured and of employers, and regularly receive professional training to provide up-to-date help to clients. Moreover, we had the opportunity to speak to a head of unit to whom frontline administrators report as well as to two persons working within organizational development and/or public relations. Interviews were conducted by telephone in November 2022. All interview partners have at least several years of experience inside the organization (maximum: since 1987; minimum since 2018). The questions guiding the interviews focused on three specific aspects. First, do respondents perceive an increasing level of implementation stress in their daily work? Second, if so, what is the source of this increasing stress level? Do they attribute this mainly to increasing caseloads or rather legislative reforms leading to rule accumulation? And third: How do respondents as well as the organization cope with the reported development (a more detailed description of the guiding interview questions as well as the interviewee selection process can be found in [Supporting Information: Appendix A2](#)).

4 | Empirical Results

The empirical results are presented within three parts. The first part focuses on whether there is evidence for an increasing implementation gap based on the quantitative indicator for implementation stress. The second part focuses on whether policy accumulation plays an important role in the trajectory of implementation burdens. Finally, the third part of this section presents results of the qualitative interviews probing the plausibility of the main analysis based on whether it matches the perception of frontline workers and based on whether perceived increases in implementation stress is attributed to instances of policy accumulation by them.

4.1 | Increasing Implementation Stress

Between 2011 and 2019, German policymakers adopted 21 laws affecting the work of the Retirement Insurance. Combined, these laws created additional implementation burdens for the Insurance between ca. 59Mio EUR (least conservative approach) and ca. 13.3Mio EUR (most conservative approach) worth of administrative work. This amounts to enough work for somewhere between 261 and 1.157 full-time employees (average labor costs per employee for Insurance of ca. 51.000 EUR in this period). Yet, while policymakers created work for more people, the Insurance's number of administrative employees decreased by 1.356 full-time equivalents between 2013 and 2019. This amounts to about 3% of its total staff of 2013 in full-time equivalents. Overall, this created a divergence between policy-induced administrative workload and administrative staff, which is

illustrated in Figure 1. It shows an increasing gap between the additional staff needed to implement the accumulating workload and the change in available staff to do the work.

Panel A of Figure 1 reflects the maximal divergence between implementation burdens and implementation capacity under the least conservative assumption that all administration and enforcement costs represent workload. Panel B of Figure 1 displays the minimal divergence reflecting the most conservative approach that excludes all administration and enforcement costs of the 10 reforms for which explicit estimates of entailed labor costs are not available. Under both assumptions, the analysis supports the implementation gap hypothesis: The gray area in both panels of Figure 1 shows the size of this gap for different years. In Panel A, the implementation gap is visibly increasing over time because of (a) additional burdens created by legislation and (b) decreasing employment numbers. Within the relatively short period of time between 2011 and 2019, this gap grew to a size of about 2.506 full-time employees. This represents ca. 5.2% of the Retirement Insurance's total administrative staff. Unless the organization was able to become, between 2012 and 2019, about 5% more productive overall and able to redirect freed up resources to relevant parts of the organization, implementation stress thus increased over the observation period.

Both processes—legislation-induced burdens and decreasing staff—contribute to a similar extent to the increasing implementation gap. Even under the most conservative assumption (Panel B), the size of this implementation gap is visibly increasing. In this case, however, the larger share of this increasing gap is the result of decreasing employment within the organization.

4.2 | Reform Contents and the Relevance of Policy Accumulation

Legislative documents not only provide quantitative estimates of changes in administration and enforcement costs associated with reforms but they also briefly explain the main reform elements of the reform that create these costs. Based on whether changes in costs are explained to result from new tasks for the organization, the substitution of old tasks for new tasks, or the termination of previous tasks, changes in costs are attributed to result from policy accumulation, policy change, or policy termination. [Supporting Information: Table A1](#) provides a list of all reforms, associated changes in implementation burden, and a brief explanation of key reform contents and the according classification. Overall, an analysis of reform contents shows that while policy accumulation is a relevant source of increasing implementation burdens, a narrow focus on how policy accumulation contributes to this implementation gap underestimates the true extent of this gap.

In seven of the 21 reform instances, changing implementation burdens result from policy accumulation. One of these reforms was the Act on Stabilizing the Social Insurance of Artists ([Supporting Information: Table A1](#), id 10 (2014)). The German statutory retirement system is essentially a pay-as-you-go system tailored to individuals with conventional employment. Employees carry half of their contributions themselves, while the other half is paid by their employer. Typically, employees

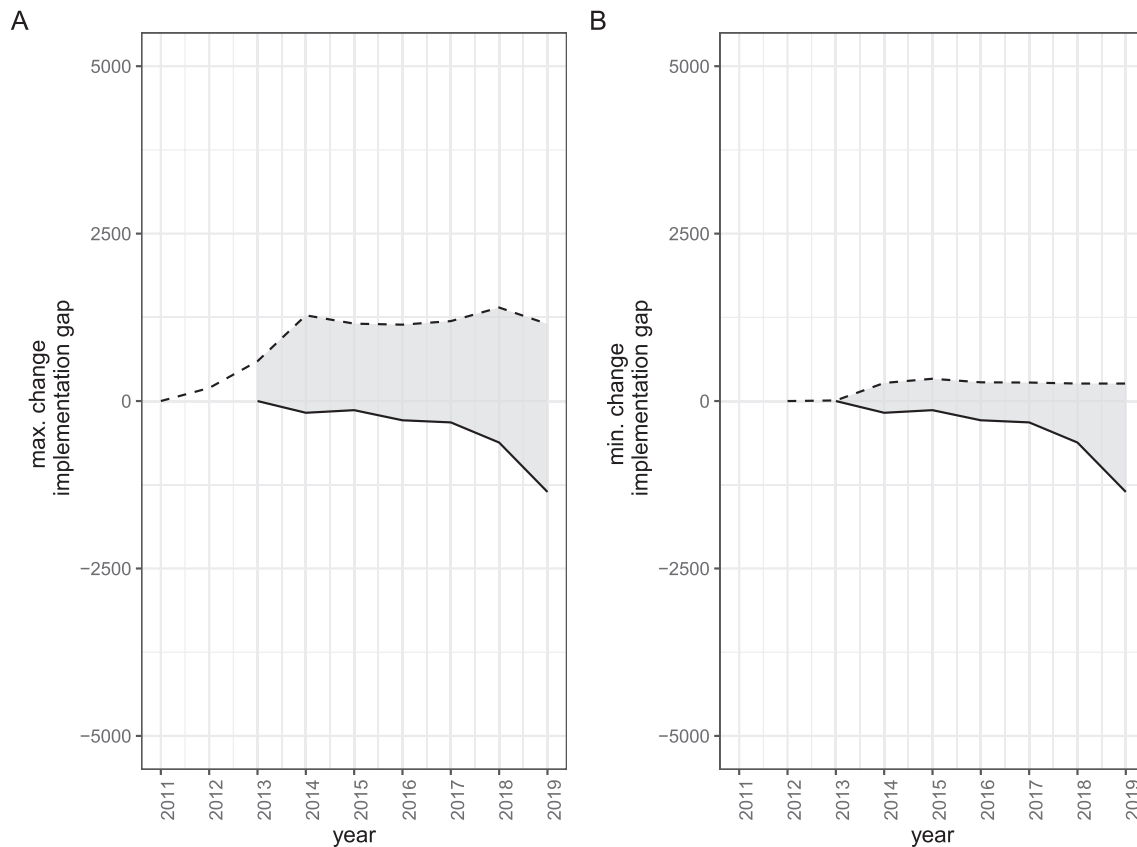


FIGURE 1 | Development of the implementation gap. Panel A displays the growing gap between the number of additional employees needed to administer and enforce the 21 legislative reforms analyzed (dashed line) and the Retirement Insurance's number of employees (solid line). It does so under the assumption that all stated administration and enforcement costs represent administrative labor costs. Panel B displays the same development only for explicitly defined administrative labor costs.

do not have a choice but are mandated to pay into the statutory retirement system. Whether self-employed individuals are allowed to remain outside of this system depends on their profession. Self-employed artists, for example, were made part of the professions with mandatory membership in the statutory pension system in the 1980s. Yet, in contrast to classic employees, they do not share their retirement contributions with (a nonexistent) employer. Instead, the second half of artists' contributions comes from commercial users of art (radio, television, publishers, press agencies, etc.). However, since many commercial users actively evaded their payments, this reform created additional requirements for the extended audits of companies to ensure they pay their share. The burdens of implementing this reform do not have to be carried by the Retirement Insurance alone. The law also establishes an auditing group within the Artists' Social Security Insurance that provides support. Nevertheless, the Retirement Insurance is also estimated to require an additional 233 employees to fulfill all the tasks associated with these extended audits (e.g., 12.3 Mio EUR per year in administrative labor costs).

A second instance in which policy accumulation raised implementation burdens is the "Act on Improving the Balancing Between Family, Care and Work," which introduced a new cash benefit (receivable for up to 10 days) for individuals responsible for care work for their family members at home. This benefit is not paid out by the Retirement Insurance but by the Nursing

Care Insurance (*Pflegekasse*). Nevertheless, policymakers are aware of implementation burdens created for the Retirement Insurance created by the reform. Specifically, the reform is estimated to create administration and enforcement costs of 560,000 EUR for the Retirement Insurance. This is because the benefits are considered income and therefore require the deduction of retirement contributions. Unfortunately, it is unclear whether these costs only cover administrative labor costs or might also entail costs for external IT contractors. To account for this ambivalence in the data, the reform is considered to add somewhere between 560,000 EUR (least conservative approach) and 0 EUR (most conservative approach) worth of administrative work for employees inside the Retirement Insurance in the first year of implementation.

All seven reforms characterized as instances of policy accumulation are briefly summarized in [Supporting Information: Table A1](#). Yet, while legislators have added to the implementation burdens of the Retirement Insurance by creating new tasks for it (policy accumulation), mere policy change is another important source of the organization's growing workload. For example, the Act on changes in the area of low wage labor ([Supporting Information: Table A1, id 2 \(2012\)](#)) established that, after 2012, low wage laborers (<450 EUR/month salary) must opt out of the statutory pension system instead of having the chance to opt into the system. This policy change from an opt-in to an opt-out system is estimated

to not only incur considerable initial and temporary costs but also requires continuous administration and enforcement costs of 1 Mio. EUR annually on the part of the Division for “Mini-Jobs” (*Minijob Zentrale*) within the Federal Retirement Insurance *Knappschaft-Bahn-See*. Overall, legislators have passed nine laws that raised the organization's implementation burden through policy change.

Finally, five reforms recorded no impact on the Retirement Insurance's implementation burdens, while not a single reform reduced the organization's administration and enforcement costs. Even the one reform representing an instance of policy termination did not lower the burdens; at least during the observation period. In contrast, it even elevated the organization's implementation burdens temporarily. Specifically, the Act on Terminating the Transition of Pensions from the German Democratic Republic (GDR) to the Federal Republic of Germany (FRG) ([Supporting Information](#): Table A1, id 18 (2017)) terminated the need to treat pension credits gathered from the formerly socialist GDR differently than pension credits gained within the FRG after reunification. To do so, the law foresees the stepwise harmonization of these two systems to eventually treat all pension premiums and credits identically after 2024. While this law eventually terminates the set of distinct rules for pension credits in Eastern Germany, it temporarily introduces a new set of rules on how to successively harmonize both rulesets over time. This harmonization is estimated to create ca. 410.000 EUR in administrative labor costs until 2024.

4.3 | Plausibility Probes: Selective Employee Perceptions

The qualitative interviews serve three purposes. First, the interviews discuss frontline workers' perceptions of the development of implementation stress to probe the plausibility of the quantitative indicator. Second, they ask about the sources of implementation stress to probe the relevance of policy accumulation. Third, they explore how workers cope with increasing implementation stress.

Overall, the qualitative interviews provide further support for the implementation-gap hypothesis as interview partners not only report increasing levels of workload and implementation stress but also highlight policy accumulation as an important source of this increase. The following sections provide a brief synthesis of the interviews in terms of (a) the perceived development of implementation stress, (b) the sources to which increasing stress levels are attributed, and (c) strategies to cope with this development.

Six interviewees report a clear increase in perceived implementation stress that is described as an increasing density of tasks to be handled. Only one interviewee does not share this perception. Interestingly, this interviewee does not serve at the organization's administrative frontline handling cases.

Five interviewees attribute this increasing level of implementation stress explicitly to legislative changes. Even where interviewees emphasized increasing workloads due to an increasing share of baby boomers entering retirement as a main source of

implementation stress, they also mention legislation as an additional source of growing implementation stress. Additionally, one interviewee thinks that the increasingly short implementation phases that policymaker's grant to the organization as a source of legislatively induced implementation stress.

When asked to elaborate on this aspect, a prominent theme in several interviews was that increasing legal complexity led to implementation stress. This legal complexity resulted from the interaction of “old” laws that still exist and “new” laws that complement existing laws and bring in new elements. Two interviewees highlight policymakers' intention to do better justice to individual cases as something that motivates many legal changes. However, this would not only result in more complexity but also in additional implementation stress, as these changes make routine cases and procedures become less frequent. Advising and handling individual applications for benefits would become increasingly complex in this legal environment. Policy accumulation is thus clearly identified as an important source of growing implementation stress, not only because of an increasing number of provisions to be taken into account. More importantly, the interaction of new and pre-existing provisions creates an increasing level of complexity, which is increasingly difficult to handle administratively.

The interviews reveal different opinions on how the decreasing number of employees affects implementation stress inside the organization. One interviewee highlighted that, traditionally, municipalities had also offered advisory services to citizens related to the statutory retirement system. However, many municipalities seem to have downsized these services substantially, which would put additional stress on the advising services inside the Retirement Insurance. In contrast, one interviewee also explicitly denounced that a lack of personnel was a source of implementation stress. Instead, this stress would by and large derive from legislative changes.

The interview partners describe a variety of different ways of coping with this increasing implementation stress. Some interviewees report being able to, so far, keep up with increasing workloads by personally improving their efficiency, time management, and general organization. Others, however, rather highlight their regular need for overtime work. Moreover, the interviews indicate prioritization as a classic coping mechanism. In this case, particularly client requests that are mainly informational or service-related tend to be delayed in favor of being able to prioritize all tasks related to actual financial payments, which are usually considered more urgent.

At an organizational level, job training and efficiency-oriented digitalization are highlighted as the most prominent attempts of mitigating increasing workloads. However, particularly digitalization projects also bind a lot of resources initially. In addition, the extension of vocational training spots and additional hiring initiatives are mentioned as part of the organizational response. In fact, while there is an institutionalized process of estimating future workload development and consequent employment needs, this process could not raise the organization's employment numbers throughout the observation period as hiring new staff proves challenging and the organization experiences a substantial amount of employee fluctuation.

Overall, the empirical results largely support the implementation gap hypothesis. The quantitative indicator of implementation stress indicates a sustained increase in the administrative and enforcement costs per employee. Analyzing legislative documents to identify the kinds of policy changes that gave rise to this development shows that policy accumulation is one important driver of this increasing gap. Finally, the qualitative interviews further support the plausibility of the implementation-gap hypothesis since interview partners also perceive implementation stress to increase and because they largely attribute this increase to policy accumulation and change.

5 | Discussion

This paper has presented evidence for increasing implementation stress within the Statutory Retirement Insurance in Germany responsible for implementing the bulk of old-age pension policy. Thereby, the paper provides support for the hypothesis of a creeping divergence between continuously increasing implementation burdens created by policymakers and the stagnating or even decreasing implementation capacities within public administration. Since the German Statutory Retirement Insurance is a least-likely place to find such a divergence, increasing implementation gaps really seem omnipresent. Yet, to further assess in which policy contexts, administrative sectors, and countries implementation stress accumulates particularly strongly, much more research is necessary. In particular, the identification of countries and sectors where this divergence is absent would provide a great opportunity to better understand how to avoid continuous increases in implementation stress, which will eventually result in “bureaucratic overload” (Knill, Steinebach, and Zink 2023; Limberg et al. 2021; Lourenço 2023). While the vertical integration of the policy process that connects policymakers with policy implementers helps to avoid these problems (Knill, Steinbacher, and Steinebach 2021), the question remains why this vertical integration is pursued to different degrees and how it can be achieved within different political-administrative systems. The successful pursuit of such a research agenda requires country- and sector-specific expertise. This paper hopes to serve as a “proof of concept” for using publicly available official data to facilitate cumulative research on the development of implementation stress within various policy sectors, administrative sectors, and countries. Despite OECD efforts to harmonize national measurement approaches, it might not always be possible to perfectly compare administrative and enforcement costs in absolute values. However, future comparative research will be much better able to compare within-countries trajectories of these costs and implementation stress on this data basis.

Overall, the paper shows how to adopt a perspective of descriptive epidemiology within implementation research. Such an ideal, typical, classical approach would have started from a specific policy, for example, the Act on improving and stabilizing the statutory pension system (Supporting Information: Table A1 id 20 (2018)), to analyze how well this policy has been implemented, whether it caused implementation stress, or whether it caused implementation conflict. The epidemiological perspective promoted in this paper starts with an administrative organization and to capture the prevalence of implementation problems, implementation stress, or conflict as well as the

trajectory of their prevalence within a certain organizational/jurisdictional context. EU-related implementation research has long shared this interest in an epidemiological assessment. Instead of asking about why implementation failed for individual EU policies, studies focused on how frequent implementation problems are in different member states. However, relying on the number of infringement proceedings initiated by the European Commission against individual member states (e.g., Mbaye 2001; Börzel and Kroll 2012) proved to be a highly misleading indicator for the prevalence of implementation deficits (Hartlapp and Falkner 2009). While this paper does not provide a conceptual solution to measuring the prevalence (or incidence) of implementation performance, it demonstrates that an epidemiological interest in policy implementation is useful and possible when focusing on the concept of implementation stress.

The paper hopes to inspire more research into the phenomenon of accumulating implementation stress as official data on enforcement costs lend themselves to quantitative and qualitative work in other administrative and policy contexts. Future research should further probe the validity of data provided by public authorities and examine, for example, whether certain ministerial departments and policy contexts are more likely to underestimate the bureaucratic burden created by their legislative proposals.

In conclusion, the approach demonstrated in this paper is relatively simple and therefore holds the potential to improve our ability to more effectively deal with policy growth. It allows scholars and policymakers to monitor implementation stress within administrative units and help them identify “best practice” cases, which appear to successfully cope with rising implementation stress.

Conflicts of Interest

The author declares no conflicts of interest.

Data Availability Statement

The data that support the findings of this study are publicly available from the online document archive of the German Bundestag and on the website of the German Retirement Fund (See: <https://statistik-rente.de/drv/> and go to “sonstige Statistiken” and “Personal”).

Endnotes

¹ See: <https://www.sueddeutsche.de/gesundheitspolitik/gesundheitspolitik-r-erneut-mehr-reha-antraege-bei-der-rentenversicherung-dpa.urn-newsml-dpa-com-20090101-200819-99-220847> (accessed last on December 7, 2022).

² See: <https://www1.wdr.de/nachrichten/hoher-beratungsbedarf-rente-100.html> (accessed last on December 7, 2022).

³ See: <https://statistik-rente.de/drv/> and go to “Zeitreihen” and “Gesetzeschronik” (accessed last on December 7, 2022).

⁴ See: <https://statistik-rente.de/drv/> and go to “sonstige Statistiken” and “Personal” (accessed last on December 7, 2022).

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Supporting Information

Additional supporting information can be found online in the Supporting Information section.