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Performance Auditing Trends at a Supreme Audit Institution: UK National Audit Office, 1999 to 2021

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ABSTRACT

Performance audits have become increasingly important across the world. Scholars know that a variety of practices are incorporated within performance audits and have mapped this diversity. However, few quantitative studies examine performance auditing as a practice. This study fills that gap. By analyzing the published performance audit documentation of the UK National Audit Office (NAO), the study explores the influences of governmental change and crises behind changes in a supreme audit institution's performance audit. It also examines whether performance audits are diverse by examining the language used by the auditors. The study provides evidence that neither crises nor changes of government have a significant effect on the overall extent of performance audit reporting. However, over time, the study does find variation in the themes of performance audit reports, with more financial themes and fewer performance themes after 2010.

1 | Introduction

A big issue has been the significant reforms of the state enacted by governments as part of a neoliberal agenda encapsulated in New Public Management (NPM) (Hood 1991; Hyndman and Lapsley 2016; Lapsley and Miller 2024). These reforms led to calls for greater accounting, audit, and accountability (Steccolini 2019; Hyndman and Ligouri 2024) with Supreme Audit Institutions (SAIs) in the vanguard to do so (Ferry et al. 2023).

More specifically, due to NPM, more demands have been placed on performance auditing (Gendron et al. 2003, Gendron et al. 2007; Hyndman and Lapsley 2016). Performance auditing, though, encompasses a wide variety of practices (Parker et al. 2019). Scholars suggest it is normally expected to examine aspects of economy, efficiency, effectiveness, but also could look at ethics, equity, and the environment, among others (Dewar 1993; Bringselius 2018; Ferry and Eckersley 2020). Historical studies suggest that performance audits developed over time (Dewar and

Funnell 2016; Midgley et al. 2024). Context is key to what is and is not included in a performance audit report (Lonsdale 2013, 2020).

Recent literature reviews suggest that performance audit is diverse and that auditors are independent of political pressure and consequently unlikely to react immediately to crisis (Mattei et al. 2021; Rana et al. 2022). The studies that these reviews examine, though, are mainly qualitative or mixed-methods studies.

Rana et al. (2022) notes a dearth of quantitative studies of performance audit in SAIs, and to address the gap, this paper considers developments in the National Audit Office (NAO), which is the SAI of the United Kingdom, through analyzing their published performance audits and associated documentation across a period of over 20 years, from 1999 to 2021, that is made publicly available on their website. The reports of the NAO are the main form of published performance audits for the central government in the UK. Financial audits are not considered

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as they have standardized formats and are subject to auditing standards and have a separate history of development (Edwards 2023). The study also does not consider internal audit, as that has a different constitutional and political role, and this institutional setting creates a difference between internal and external auditors (Liston-Heyes and Juillet 2022a).

The analysis of performance audits and associated documentation involved three hypotheses: that performance auditing would not be affected by change in government as the SAI is independent, that performance auditing would increase in response to crises, and that the aspects of performance audit reporting would remain performance and risk-based rather than financial and compliance.

It will be shown that changes in government did not affect the performance auditing, which was expected due to the independence of the SAI. Also, changes from events and crises did not affect the overall extent of performance audit reporting. Nevertheless, by a more nuanced study of the data, it was found that the focus of performance audit reporting was affected as the emphasis on financial aspects became more pronounced following austerity, whilst performance did not have such an upward trajectory. Compliance remained a fairly static aspect of performance audit reporting over the period studied.

The paper will now be split into several sections. Section 2 will cover the literature on performance audit reporting underpinning the three hypotheses. In Section 3, the methodology will be ascertained in terms of the background on the research case of the NAO and the methods employed. Section 4 will outline findings for the three hypotheses. Finally, in Section 5, the paper will set out the theoretical contribution to public audit as well as implications for policy, practice, and future research.

2 | Performance Audit Reporting

Performance audit is becoming more and more important within the public sector (Power 1996, 1997; Kontogeorga 2019; Cordery and Hay 2022; Ferry et al. 2023). Consequently, academics are paying increasing attention to it as a phenomenon (Rana et al. 2022).

In the following three parts of the literature review, three hypotheses are made about performance audit reporting that arise from the literature. The hypotheses concern the impact of changes in government on performance audit reporting, the impact of crises on performance audit reporting, and lastly, changes in the themes of performance audit reports. In doing this, we pay attention to the rhetoric of SAIs following numerous studies that argue that rhetoric in accounting determines the contribution of the report (Mueller 2017; Ferry et al. 2018).

2.1 | Changes in Government and SAIs

A change in government within a democratic society normally brings about a change in orientation for all government agencies, including the civil service. Numerous changes in the UK, for example, have reshaped the state since 1945 (Richards 2023).

The question of whether the SAI would also change its political direction and its style of reporting depends upon two axioms. Firstly, it depends on whether the SAI is independent of the government of the day, and secondly, as an election in the UK changes the legislature, on whether it is independent of the legislature of the day.

SAIs have been historically independent of the government of the day. Constitutionally, they are seen as part of a structure of accountability which defends the rights of the citizen against the state (Funnell 2007; Ferry and Midgley 2022). The auditor's constitutional role enabled them to take a different view of financial control from that taken by the executive (Pallot 2003). Disputes between independent auditor generals and the government of the day have been central to the history and practice of SAIs (Funnell 1996, 1998, 2003; Dewar and Funnell 2016; Radcliffe 2008; Midgley et al. 2024). Parliaments depend on information revealed by the auditor and consequently must trust that information is accurate, and such trust depends on the auditor's independence from the executive (Heald 2018; Ferry et al. 2024). Consequently, independence is seen as a key attribute of SAIs (Ferry et al. 2023).

Advocates for audit independence stress not only the independence of the SAI from the government of the day but also argue for its independence from Parliament. There are concerns that, whilst the auditor serves a legislature often, were the auditor to become subject to a political direction, their work might be tainted in the eyes of both officials and politicians (Midgley 2019; Midgley et al. 2024). Auditors articulate their own value in favor of a broader public interest or the efficiency and effectiveness of government policy rather than in political terms (Cordery and Hay 2019; Hazgui et al. 2022). The realism of such a poise has been questioned, though, given that the work of a SAI is inherently political because of their link to the process of accountability (Grasso and Sharkansky, 2001; Natan Krupp and Mizrahi 2024).

In performance audits, auditors have stressed the independent, unbiased nature of their methodologies and the way that these represent an apolitical analysis of the state (Radcliffe 1998; Gendron et al. 2003; Gendron et al. 2007). This fits into the trend towards NPM in modern government, which relies upon administration being a neutral and technical art (Hood 1991). Audit is a key part of NPM (Hyndman and Lapsley 2016). Techniques and skills are imported from the private sector (Cordery and Hay 2024). Auditors' identities often depend upon these claims to expertise as consultants for the public sector (Morin and Hazgui 2016). These factors together suggest that a change of government should not make a difference to the way that the auditor does their work.

H 1. *A change of government will not affect the subjects of the performance audit.*

2.2 | Crises and SAIs

Crises are becoming more prevalent in recent history (Boin and Lodge 2016). The financial crisis of the late 2000s catalyzed a long stretch of austerity in most countries across the world, which itself created new crises in public services. In the UK, austerity afforded a crisis in public service capacities to deliver. Then the decision

to leave the European Union—coined as Brexit—constituted a further crisis for the political regime, with a paralyzed Parliament unable to pass legislation for 2 years. The 2020 pandemic of COVID-19 was another global crisis that set back economic growth and instigated repressive measures (Tooze 2021; Ferry et al. 2024a).

Public administration theorists see crisis as a key moment of change within public services. Crises can change the nature of democracy itself as governments are forced to take emergency decisions to deal with the issues arising (Poole 2015; Tooze 2018, 2021). The relationship between government and the public is essential, often during a crisis (Ferry et al. 2021). Crises require governments to assess and understand risk, to receive and use information about what is happening during the crisis, and to be transparent about their reaction to the crisis (Comfort 2007; Lenz and Eckhard 2023). Scholars have focused, given the number of interlocking crises, on the reliance of administrations to face these crises financially (Barbera and Steccolini 2024).

These changes have a clear impact on accounting. Accounting, too, can change because of a crisis. Sargiacomo (2015) showed that crises can cause changes in accounting policies and practices within public services. More radically, a crisis can lead to the reformation of organizations themselves and the creation of new forms of hybrid organization to meet the moment (Sargiacomo and Walker 2022). A crisis can catalyze changes in accounting by providing evidence that they are necessary (Davis 2022; Midgley et al. 2024). Even when systems respond effectively, a crisis may reveal that accountability for that system is impaired in the emergency (Grossi and Vakulenko 2022). Numerous studies have identified that audit is responsive to contemporary crises (Lonsdale et al. 2011; Lonsdale 2020; Sian and Smyth 2022).

However, there are good reasons to argue that a crisis is unlikely, according to the literature, to cause change in the practices of SAIs. Firstly, SAIs are not directly involved in the crisis response as decision makers or providers of services (Lonsdale 2013). Secondly, and more profoundly, SAIs are often established by statute, so their remit is fixed and hard to change fundamentally. These statutes have a long and international influence (Funnell 1994). Financial accounting and audit are determined by standards that do not change in response to crisis but are driven forward by different alternative logics (Stewart and Connolly 2021, 2024a, 2024b; Edwards 2023). Furthermore, even with regard to performance audits, SAIs exist within a regulatory space where other players, including Parliamentary committees and governments, have demands upon them (Midgley 2019; Ferry et al. 2023; Midgley et al. 2024): this means that performance audits are likely to continue to be published in the same volume and according to the same fundamental legislative remit after a crisis as they were beforehand.

H 2. *Crises will not affect the nature of performance audits across the period.*

2.3 | The Different Themes of Performance Audits

Performance audit has been described as malleable (Parker et al. 2019). It developed over time and does not have a clear origin

point (Dewar and Funnell 2016; Rana et al. 2022; Grossi et al. 2023). In particular, Mattei et al. (2021) identify that performance audit is linked to the emergence of both NPM and the new public governance movements. There have been attempts by academics and practitioners to define performance audit. The International Organization of SAIs, for example, defines performance audit by reference to economy, efficiency, and effectiveness (International Society of Supreme Audit Institutions 2019). However, these concepts themselves are subject to debate, with different practitioners taking a different view of what each means (Midgley et al. 2024). Furthermore, recent work has suggested further concepts should be added to the definition of performance audit: for example, the environment (Dewar 1993), ethics (Bringselius 2018), and equity (Ferry and Eckersley 2022).

This diversity of potential definitions of performance audit is reflected in practice. There is international diversity in the way that performance audit is defined (Pollitt 2003; Cordery and Hay 2022). There are diverse ways of understanding what a performance audit is and how it should be performed. Rana et al. (2022) identified two purposes from the literature for performance audit: an accountability purpose and a purpose focused on improving public sector performance. Morin and Hazgui (2016) suggested that these were intrinsic to the identities of the auditors they looked at. These are not the only potential purposes for performance audit: for example, Grönlund et al. (2011) identified that performance audits could be focused on compliance as well, whereas Milgrom and Schwartz (2008) suggested the priorities of the auditor should be based on the potential for impact arising from their work. Lonsdale (2008) argues that for these reasons, performance audit has become a hybrid discipline. The fluidity of performance audit means that it can be influenced by context. Lonsdale (2013) suggested that the type of performance audit that a country had was significantly influenced by the context in which it took place. Midgley et al. (2024) argued this in the context of the NAO, suggesting that after 1988, the then C&AG expanded the remit of public sector performance audit in the UK, and then after 2010, there was a corresponding contraction led by the next C&AG, Amyas Morse, to a more managerial focus. They also argued that this resulted from austerity and the drive to decrease budgets and a transfer of money from performance audit to financial audit.

Rana et al. (2022) suggest there are no purely quantitative studies examining performance audits. Mueller (2017) and Ferry et al. (2018) stress how important language is to understanding what interventions by accountants are attempting to do. Recent studies of the work of audit offices have taken on this argument, but they have included work by internal auditors and financial auditors, and while they find changes in the themes in audit reports, this broader coverage means that conclusions cannot be drawn from them for performance audits more precisely (Liston-Heyes and Juillet 2022b). Nevertheless, while they examined a different population, Liston-Heyes and Juillet (2022b) did develop a conceptual tool for analyzing the diversity of audit reports, analyzing whether their language reflected compliance, financial, risk, or performance issues.

To understand the diversity in performance audit reports and whether there are shifts in the behavior of one audit office, the paper uses a slightly modified version of Liston-Heyes and

Juillet's (2022a) words to analyze the performance audit reports and associated documentation of the UK NAO.

H 3. *The language used by performance audit reports and associated documentation will shift over time.*

3 | Research Methodology

3.1 | Research Case

In the UK, the SAI is the NAO. This was established by the National Audit Act 1983, which made the NAO independent of Government and Parliament and granted it power to conduct examinations of economy, efficiency, and effectiveness with which government services are run. The NAO follows this mandate and conducts two main types of work: financial audits of the accounts of main government ministries (usually referred to as “departments”) and other government bodies and value-for-money investigations of economy, efficiency, and effectiveness with which public money is spent—recently it has used its powers to conduct value-for-money examinations to also conduct investigations into particular failures around economy, efficiency, and effectiveness and also to publish summaries of published information about departments called Departmental Overviews. In a UK context, value-for-money reporting is performance reporting. Value-for-money reports (including investigations and departmental overviews) commonly result in an actual audit report. The NAO also conducted the financial audit of 406 accounts in 2022–2023: for most of these accounts, no report was published, only a certificate published with the accounts, and the commentary on what the NAO found was shared privately with the department through a management letter. The NAO reports mostly to the Public Accounts Committee (PAC) in the House of Commons of the UK Parliament but also supports other select committees and has developed the capacity to explain complex information as well as provide reports and audits.

The NAO is led by the Comptroller and Auditor General. The Comptroller and Auditor General is an officer of the House of Commons and is appointed by the Commons after a motion proposed by the Prime Minister and Chair of the Committee for Public Accounts is passed. The Comptroller and Auditor General has complete autonomy in managing the NAO within boundaries created by the House of Commons. The Commons votes an annual budget to the NAO, and the Public Accounts Commission (made up of MPs from the Commons) scrutinizes the NAO's use of that budget and its general administration. Organizationally, the NAO is made up of departmental teams that focus on value for money and financial audit within departments. There are some cross-cutting teams that maintain expertise in various areas of value-for-money audit or financial audit, and these can produce their own reports too. Most NAO reports are performance audit reports; for these, the NAO has access to departmental files and clears the report with the department concerned for factual accuracy before its publication. The reports are then published and attract Parliamentary privilege, meaning that the NAO cannot be sued for any of the content in the reports. Due to this unique constitutional setup, reports from the NAO are different from those from an internal audit department, which, in the UK, sits under the department's management and does

not report publicly: there have been studies that examine internal audit reporting and describe some of its activities as performance audits, but this is not the topic of this paper (Volodina et al. 2023). The NAO is the only organization that conducts performance audits in the UK central government (Midgley et al. 2024).

3.2 | Research Methods

For this study, first, the performance audit reports and associated documentation were assembled and recorded by both year and subject area (e.g., education, defense, local government, etc.). In doing so, all performance audit reports and associated documentation by the NAO on their publicly available website between 1999 and 2021 were assembled and used in this study, which totaled 7504 reports and documentation. Documents were extracted from the NAO website rather than from parliamentary records because reports that are laid in Parliament will be laid in an identical manner to the way that they are published on the website and are more complex to source from Parliament. The study does not include unpublished work that the NAO may have done regarding performance audit, as that is unavailable to researchers—this is not a significant limitation, as the NAO's performance audit reports are intended for the purpose of public accountability, and so almost all are published. Our database includes associated documentation, as often the NAO publishes the main body of the performance report in one document along with charts, diagrams, and appendices, which are also, strictly speaking, part of the report. This period (1999–2021) was selected for two reasons. First, this period is long enough for us to examine the effect of changes of government or crises on audit reporting. Second, whilst we also collected all NAO reports back to 1983, between 1983 and 1998, they are not saved as accessibly and so cannot be scrutinized through the textual analysis of trends in audit themes employed electronically in this study. Other data analytical techniques may be employed in the future to extend such a study, but for now was not undertaken.

Secondly, the audit reports were analyzed using Word proxies for different focuses in performance audit reports. These word proxies are the same as those used by Liston-Heyes and Juillet (2022b). They identified them with four themes—financial, performance, risk management, and compliance—and consequently, in this paper, we follow their use of the word themes to describe the way that we have analyzed the audit reports. Whilst the previous work of Liston-Heyes and Juillet (2022b) analyzed different data (including internal audit reports, for example, which are excluded in this study), it was agreed that their analysis of the four categories of activity in their study resembled the activity of the NAO and SAIs in general in this period. Consequently, with amendments, the study adopts their approach of using a group of words under four themes—financial, performance, compliance, and risk management—to analyze how the subject matter of NAO performance audit reports and associated documentation changed over time. Table 1 shows the word proxies in the bag of words for the four audit themes.

The authors used these words to count the number of words associated with each category in each document, then an annual count of words across all documents was calculated, and then these annual counts were graphed over time. The authors also

TABLE 1 | Word proxies.

Financial theme	Performance theme	Risk management Theme	Compliance theme
Funds	Evaluation	Risk	Governance
Income	Performance	Mitigate	Scrutiny
Revenue	Results	Proactive	Regularity
Cost	Benchmark	Expect	Compliance
Expenditure	Input	Past	Framework
Payment	Output	Historic	Control
Transaction	Outcome	Resilience	Directive
Balance	Fairness		Process
Surplus	Economy		Responsibility
Deficit	Efficiency		Accountability
Budget	Effectiveness		Transparency
Finance	Equity		Act
Saving	Value		Legislation
Spending	Benefit		Law
Account			Conformance
			Oversight
			Probity
			Due Diligence

calculated a weighted percentage of each word frequency relative to the total number of words in each document and then combined the individual percentages into an average percentage for the year, per each category. This allowed statistically significant changes in the count and weighted average frequency of these words throughout the period of analysis to be considered. The analysis was conducted at a word count level, showing the frequency of each of the selected word proxies, as well as at a weighted average level, showing the relative percentage of the word proxies' frequency in relation to the volume of the entire report. The research conducted detailed analysis and visualization at a word proxies level for each of the four themes of financial performance, risk management, and compliance, as shown in Table 1. Hypotheses H1 and H2 are assessed by identifying statistically significant trends in the use of the 54 keywords listed under the different themes. For each keyword, frequencies per report, frequencies per year, and average frequencies per report per year for the entire corpus of audit reports were calculated. Two-sample Wilcoxon rank-sum (Mann–Whitney) statistical tests (the non-parametric equivalent of *t*-tests) are used to test for statistically significant differences between time periods. In this paper, it was used to test for the statistically significant differences in word frequency per report between the two key different governments in control, Labor and Conservative, over the examined time period (1999–2010 and 2010–2021). This was used to examine H1 (see Table 2). Similar statistical testing was used to investigate the impact of crises (using COVID-19 as a proxy for the reports before 2019 and the reports during 2020–21), instead of the key government in control, to examine H2 (see Table 3). COVID-19 was used because there is a very clear start point to the crisis in March 2020, whereas other crises, such as austerity or the financial crisis or even Brexit, have a much more phased beginning.

Thirdly, nonparametric analyses (meaning that there are no underlying assumptions about the data that were looked at) and visualization were employed to track changes in the number and content of audit reports through time to test for H3, as shown in Table 4. This was because not all the words exhibited a normal distribution, so a differential analysis using a nonparametric was employed to address that issue.

There is a limitation to this methodology. By counting the words that are used, the words concerned are abstracted from their context in the reports. The methodology allows the paper to make statements about change over time in the emphasis placed on different ideas by the NAO and follows papers published elsewhere (Liston-Heyes and Juillet 2022b, 2022a), which use a similar bag of words technique.

4 | Findings

Next, we turn to address the results of our analysis, which tests the three hypotheses. Hypothesis 1 considers that changes in government do not affect performance auditing. A differential analysis for changes between governments was conducted. This examines whether there was a statistically significant difference in the data concerning performance audit reporting between the periods of Conservative and Labor governments.

The paper splits the two periods—between 1997 and 2010, when Labor dominated British politics, and between 2010 and 2021, when the Conservative Party dominated—and assesses whether there is a significant difference in the performance audit reporting in that period. Labor won the elections of 1997, 2001, and 2005

TABLE 2 | Differential analysis using two-sample Wilcoxon rank-sum (Mann–Whitney) test for different Governments.

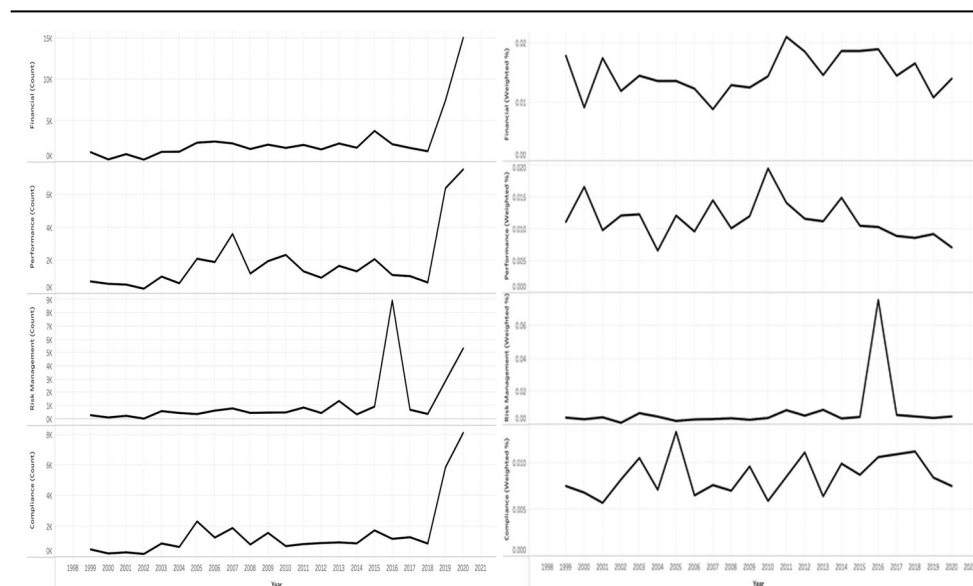
Conservatives/labor	Obs	Rank sum	Expected
0	48	1965	2136
1	40	1951	1780
Combined	88	3916	3916
Unadjusted variance	14,240.00		
Adjustment for ties	−2.38		
Adjusted variance	14237.62		

Note: H_0 : $\text{weight} \sim e(\text{conser} \sim s = 0) = \text{weight} \sim e(\text{conser} \sim s = 1)$. $z = -1.433$. $\text{Prob} > z = 0.1518$. Exact Prob = 0.1531 insignificant difference (change).

TABLE 3 | Differential analysis using two-sample Wilcoxon rank-sum (Mann–Whitney) test for pre- and post-COVID.

Conservatives/labour	Obs	Rank sum	Expected
0	76	3451.5	3382
1	12	464.5	534
Combined	88	3916	3916
Unadjusted variance	6764.00		
Adjustment for ties	−1.13		
Adjusted variance	6762.87		

Note: H_0 : $\text{weight} \sim e(\text{conser} \sim s = 0) = \text{weight} \sim e(\text{conser} \sim s = 1)$. $z = 0.845$. $\text{Prob} > z = 0.3980$. Exact prob = 0.4044 insignificant difference (change).

TABLE 4 | Financial performance, risk management, and compliance audit trends (word count and weighted percentage).

and governed on their own through that entire period. The Conservatives governed in coalition with a smaller party, the Liberal Democrats, between 2010 and 2015. The Conservatives governed on their own with a majority between 2015 and 2017 and between 2019 and 2024 and in a confidence and supply agreement with the Northern Irish Democratic Unionist Party between 2017 and 2019 (though the Democratic Unionist Party's focus on Northern Ireland meant that it had little interest in the rest of the UK's domestic policies during that

period). Table 2 shows the differential analysis for different governments.

Using a total of 7504 NAO reports and documentation during the period of 1999–2021, the results highlight that there was an insignificant difference in the performance audit reporting in this period, regardless of the government. This corresponds with the expectation from the literature, as SAIs are primarily independent of government.

In reaching this result, a Mann–Whitney Wilcoxon rank sum nonparametric test was employed (Wilcoxon 1945; Mann and Whitney 1947). This is because one of the assumptions of this test is that the data is non-normally distributed. Here, the data is not normally distributed, using word count and having a sufficient number of observations of more than five to ensure that the data is statistically valid, making the Mann–Whitney rank sum an appropriate test.

In Table 2, the first column shows the dummy variable for the examined period, where 0 stands for the Labor period in office (1999–2010) and 1 stands for the Conservative period in office (2010–2021). The combined total is the combined metric for both periods. The obs column records the number of observations, reflecting the number of periods, 22, multiplied by the number of themes examined, 4, to reach the 88 observations. The rank sum is the number of documents (excluding a number of reports omitted by the statistical analysis to avoid any non-normal distribution bias), and it is relevant to the actual sum of ranks for the times each group ranked higher than the other one. The expected column is the expected ranks sum distribution of the data, but after adjustment to get a non-normal distribution, the ranked sum totals were obtained. This is compared to the actual ranks sum to examine whether they are significantly different or not. The unadjusted variance measures the skewedness of the data from the mean by the number of words within the document.

The adjustment for ties is the rate of change to normalize the skewedness of the non-normally distributed data towards the mean. The adjusted variance is the variance after making all the normality adjustments. H_0 is the null hypothesis, which tests for the significant difference between the two periods, indicating that there is an insignificant difference in the documentation across both periods. The Z statistical distribution examines the significant difference between the two periods. The p value indicates that the medians are not statistically different at any level smaller than 15.18%. For the medians, represented by the p value, to show a significant difference between the two periods, the p value needs to show a value of less than or equal to 0.1, 0.05, or 0.01. A p value higher than that would be insignificant, which is the case here (the p value is higher than the maximum allowed [0.1], which means that we fail to reject the null hypothesis rather than the alternative one).

Next, we tested Hypothesis 2, which predicts that performance audit reporting is not affected by crisis in the period, using the consolidation of the word count per each theme over the number of years examined; therefore, the themes are used as proxies for the bag of words per each theme, as shown in Table 1. This test compares the data of two periods to determine whether there is a meaningful difference in their medians. The test allows us to examine the difference in the themes within the language used in performance audit reports before and after major events, such as COVID-19 in 2020. The result of this analysis is provided in Table 3.

The results did not show any change in the way that performance audit reporting was being written, with regard to a total of 7504 NAO reports and documentation. In undertaking the work to arrive at this result, similarly to Tables 2 and 3, consider the significance of the data. But this analysis is examining the

significant difference in reporting before and after COVID-19 as a proxy for major events. In this case, the difference between the two periods, before and after COVID-19, is insignificant as the p value is above the significance level.

Hypothesis 3 considers a more nuanced level to look at whether the themes of the language used in performance audit reporting and associated documentation shifted over time. To test Hypothesis 3, we examined the use of particular words (as set out in the methodology) within performance audit reports and associated documentation.

Table 4 sets out the financial, performance, risk management, and compliance audit trends in terms of word count and weighted percentage.

Table 4 illustrates the visual trends of the themes of the language related to the four different focuses in performance audit—financial, performance, risk management, and compliance, respectively, from top to bottom—over the study timeline from 1999 until 2021. The left-hand side diagrams show the word count, potentially reflecting a change in style in the performance audit and associated documentation. The counts of words have been affected by the length of these documents during the study period and by the nature of the database that we have examined: for example, the NAO's practices in publishing documentation may have changed over the period, affecting the number of words used per report. The word count for all terms rose from 2018 onwards: this is clearly related to the number of words in each document rising because there is no corresponding global increase in the percentage of words used in the documents. The right-hand side diagrams show the weighted percentage of word count in relation to the total word count of the published performance audit and associated documentation. This metric is not affected by the length of reports or by the documents published on the website, rather, it demonstrates a change of linguistic emphasis in the NAO's performance report documentation over this period, therefore, the weighted percentage of words used is more indicative.

The first diagram on the left-hand side refers to the financial theme word count in the examined documentation; it is showing that the word count was steady but started to increase from 2018–2019 until it reached a peak in 2020–2021. On the other hand, when looking at the first diagram on the right-hand side, which reflects the financial themes weighted percentage, as a relative proportion of the length of the examined documentation, it shows that there was some level of stability across the examined period, but in 2019–2020 we started to see some form of relative steady increase until 2020–2021. Moreover, the second diagram on the left-hand side, referring to the performance theme word count in the examined documentation, indicates that the word count for performance theme was steady from 1999 to 2000 until 2018 to 2019 and then started to increase, reaching its peak in 2020–2021. On the other hand, the second diagram on the right-hand side considers the performance theme weighted percentage as a proportion of the examined documentation, which shows some level of stability, although some decline from 2014–2015. The third diagram on the left-hand side refers to the risk management theme word count in the examined documentation. It shows a steady word count from 1999–2000 until there is an increase

from 2015–2016 to 2017–2018. Then there was a sharp decline followed by a short period of stability at 2017–2018, which was then followed by a steady increase in word count from 2018–2019 to 2020–2021. In contrast, when looking at the third diagram on the right-hand side, which reflects the risk management theme weighted percentage as a relative proportion of the length of the examined documentation, we are recognizing a similar pattern to the word count. However, after the sharp decline in 2016–2017, we are observing steady stability at this low level of weighted percentage until 2020–2021. Finally, the fourth diagram on the left-hand side shows the compliance theme word count in the examined documentation. It indicates that there is some level of stability in compliance theme word count over the period from 1999–2020 to 2018–2019, where there is a steady increase in the word count until 2020–2021. However, the fourth right-hand-side diagram, showing the weighted percentage of the compliance theme as a percentage of the length of the examined documentation, indicates some level of fluctuation over time at a low level from 1999 to 2000 until 2018 to 2019, where we started to see a steady decline to 2020–2021.

In summary, Table 4 demonstrates a number of points concerning the usage of language in audit reports and associated documentation over the period, at both a count and a weighted percentage level. Firstly, there are fluctuations in the usage of words between years—this is especially notable in the use of “risk” related words, which spiked in 2016 before falling back to their approximate level before 2016. These changes did not endure and so do not represent an enduring change in the way that the NAO wrote reports. Secondly, and more importantly, there are changes in the use of words that do endure over time. For example, after 2010, there appears to be an increase in the percentage of financial words used in performance audit reports and related documentation. After 2010, there was also a decline in the percentage of “performance”-related words used in audit reports. Whereas the percentage of compliance and risk-related words seems to remain constant. This change in linguistic emphasis indicates that the NAO shifted its emphasis in reports from a performance theme to a financial theme. This may reflect a change in the NAO’s role in this period.

5 | Concluding Discussion

The paper will now consider the theoretical contribution and implications for policy, practice, and future research. Firstly, this is the first major quantitative study of performance audit reporting as a genre of audit work in the public sector (Rana et al. 2022). Whereas previous quantitative work, for example, Liston-Heyes and Juillet (2022b), combined different types of audit reports—financial, performance, and internal audit—from different types of auditors (external and internal), this paper just analyses external performance audit reporting. This is important given the increased profile of external performance audit reporting globally (Corderly and Hay 2019; Ferry et al. 2023).

The paper makes three separate theoretical contributions to our analysis of performance audit. Firstly, the paper shows that the SAI is independent of the government of the day. Changes in government have no statistically significant effect on the SAIs’ performance audit reports or associated documentation. This is

in line with expectations from the literature on SAI independence (Ferry and Midgley 2022; Ferry et al. 2023), but to the best of our knowledge and as suggested in Rana et al. (2022), it has never been confirmed before by empirical quantitative data.

Secondly, the paper confirms that crises have no impact on the performance audit reports or other documentation produced by the SAI. This is in contrast to scholars who stress how the machinery of accountability and government must change in response to crises and therefore represents an interesting and important finding (Sargiacomo 2015; Ferry et al. 2024). Partly, this finding may depend upon the fact that SAIs are embedded in constitutional structures that are fairly rigid (Dewar and Funnell, 2016; Midgley et al. 2024). Their activities are also determined by funding, which is decided externally, though SAIs have considerable latitude in how they spend their money (Midgley et al. 2024).

Lastly, the paper confirms the impression of scholars that performance auditing encompasses different polarities (Rana et al. 2022). Other scholars have indicated this in the past, often arguing that audit is a hybrid discipline that includes both consultancy and management advice as well as accountability (Morin and Hazgui 2016; Lonsdale 2008). Liston-Heyes and Juillet (2022b) suggested, as a way to quantify this variety, that scholars use themes within auditing language and argued that these themes could then be counted. We have adopted this approach in the paper as a way of exploring how far the assertions made by earlier scholars about the diversity of audit reports can be supported. We find it can, and in the case of the NAO, we also find a movement over time between the themes—from performance to financial themes in the language. This is consistent with the work of Midgley et al. (2024). Midgley et al. (2024) argued on the basis of interviews and other documentation that after Amyas Morse was appointed as C&AG in 2009, the NAO became much less interested in outcomes and more focused on management processes. This change took place against the context of pressure on budgets for performance audits inside the NAO, arising both from austerity and from a diversion of resources away from performance audits and towards financial audits. Our account is consistent with this historical work but provides an empirical basis in quantified analysis that the study could not provide.

The paper opens avenues for future research. Firstly, the paper investigated the fact that the language used in performance audit reports changes over time. Scholars have been more influenced in documenting the purposes of performance audit reports—questioning whether there are more purposes than the traditional three E’s (Bringselius 2018; Ferry and Eckersley 2020) or elucidating the differences between accountability and consultancy (Morin and Hazgui 2016; Rana et al. 2022). The next step could be to connect these purposes to the language used in performance audit reports and to demonstrate how a particular set of words reflects a particular set of purposes. Further work could also be carried out on individual reports, examining the context in which these words are used and checking the proxies provided by Liston-Heyes and Juillet (2022b) in that way.

Secondly, this paper provides a description of the languages of performance audit reports and how they changed over time, but it does not investigate the causes for those changes. Future

scholarship could examine why performance audit reporting in the UK shifted in its emphasis over time from focusing on performance to focusing on financial language. It could also examine why words associated with compliance remained static and attempt to link the fluctuations that can be seen in the uses of certain words around risk to events or the types of reports issued. This study does not do so, as it provides an analysis of the diversity of performance audit reporting language in this period but does not seek to explain why that diversity occurred. Such future research may benefit from more qualitative and/or historical studies, which can establish the causation and a different set of methods to analyze that causation. This research could illuminate, in particular, some of the fluctuations in the use of language—for example, around risk—that we cannot within this study explain.

Thirdly, whilst it is implied by the auditing literature that these findings on independence, crises, and the diversity of language used to describe performance in these audit reports might be reflected in other jurisdictions, it is not possible to state this with certainty. Consequently, further work is necessary on other audit offices in other countries and whether their reports are also consistent with these hypotheses. We would expect that the different constitutional and institutional structures lying behind SAIs might emerge through this analysis—allowing, in the future, a more detailed examination of the isomorphism of performance audit in SAIs to be carried out (Cordery and Hay 2022).

Lastly, in terms of implications for policy and practice, the study's identification of the diversity of performance audit reporting in the UK suggests that practitioners have more discretion in what they do when they perform a performance audit report. Previous literature has suggested that performance audit report practices are varied based on survey or other evidence, but this provides the first quantitative evidence that the performance audit conducted by an SAI can shift over time. Consequently, it is necessary for practitioners to be mindful of what the objectives of their work should be. A performance audit is not a given but instead is a concept that encompasses many possibilities for future action. Given the wider issues with the UK's system of financial accountability and whether it has achieved results over the last 40 years, policymakers could consider how performance audits need to change to ensure greater success in the future (Heald and Hodges 2024).

Data Availability Statement

The data that support the findings of this study are available in NAO at <https://www.nao.org.uk/reports/>. These data were derived from the following resources available in the public domain:—National Audit Office, <https://www.nao.org.uk/reports/>.

References

Barbera, C., and I. Steccolini. 2024. "Tackling Crises and Austerity." In *The Resilience of New Public Management*, edited by I. Lapsley and S. Miller, 160–177. Oxford University Press.

Boin, A., and M. Lodge. 2016. "Designing Resilient Institutions for Transboundary Crisis Management: A Time for Public Administration." *Public Administration* 94, no. 2: 289–298.

Bringselius, L. 2018. "Efficiency, Economy and Effectiveness—But What About Ethics? Supreme Audit Institutions at a Critical Juncture." *Public Money & Management* 38, no. 2: 105–110.

Comfort, L. 2007. "Crisis Management in Hindsight: Cognition, Communication, Coordination, and Control." *Public Management Review* 67, no. 1: 189–197.

Cordery, C., and D. Hay. 2019. "Supreme Audit Institutions and Public Value: Demonstrating Relevance." *Financial Accountability & Management* 35, no. 2: 128–142.

Cordery, C., and D. Hay. 2022. "Public Sector Audit in Uncertain Times." *Financial Accountability & Management* 38, no. 3: 426–446.

Cordery, C., and D. Hay. 2024. "Public Sector Audit: New Public Management Influences and Eco-System Driven Reforms." *Journal of Public Budgeting, Accounting and Financial Management*, ahead of print, March 5. <https://doi.org/10.1108/JPBAM-07-2023-0124>.

Davis, A. 2022. *Bankruptcy, Bubbles and Bailouts: the inside History of the Treasury Since 1976*. Manchester University Press.

Dewar, D. 1993. "Environmental Auditing: The Fourth 'E'." *Managerial Auditing Journal* 6, no. 5: 7–13.

Dewar, D., and W. Funnell. 2016. *A History of British National Audit: The Pursuit of Accountability*. Oxford University Press.

Edwards, J. R. 2023. "Cash to Accruals Accounting in British central Government: A Journey Through Time." *Financial Accountability & Management* 39, no. 1: 40–59.

Ferry, L., and P. Eckersley. 2020. "Hybridizing the Institutional Logics of Performance Improvement and Budgetary Stewardship in English and Welsh Local Government." *Public Policy and Administration* 35, no. 1: 45–64.

Ferry, L., and P. Eckersley. 2022. "Budgeting and Governing for Deficit Reduction in the UK Public Sector: Act Four—Risk Management Arrangements." *Public Money & Management* 42, no. 6: 365–367.

Ferry, L., K. Hamid, and P. Hebling Dutra. 2023. "An International Comparative Study of the Audit and Accountability Arrangements of Supreme Audit Institutions." *Journal of Public Budgeting, Accounting and Financial Management* 35, no. 4: 431–450.

Ferry, L., C. Hardy, and H. Midgley. 2021. "Data, Trust, Democracy and Covid-19: The First Parliamentary Assessment of the UK Government's Approach to Data During the Pandemic." *Public Money & Management* 41, no. 8: 676–678.

Ferry, L., and H. Midgley. 2022. "Democracy, Accountability and Audit: The Creation of the UK NAO as a Defence of Liberty." *Accounting, Auditing and Accountability Journal* 35, no. 2: 413–438.

Ferry, L., H. Midgley, and J. Haslam. 2024. "Democracy, Accountability, Accounting and Trust: A Critical Perspective Reflecting on a UK Parliamentary Inquiry into the Role of Government Accounts." *Critical Perspectives on Accounting* 99: 102738.

Ferry, L., Z. Zakaria, Z. Zakaria, and R. Slack. 2018. "Framing Public Governance in Malaysia: Rhetorical Appeals Through Accrual Accounting." *Accounting Forum* 42, no. 2: 170–183.

Funnell, W. 1994. "Independence and the State Auditor in Britain: A Constitutional Keystone or a Case of Reified Imagery?" *Abacus* 30, no. 2: 175–195.

Funnell, W. 1996. "Executive Encroachments on the Independence of the Commonwealth Auditor-General." *Australian Journal of Public Administration* 55, no. 4: 109–123.

Funnell, W. 1998. "Executive Coercion and State Audit: A Processual Analysis of the Responses of the Australian Audit Office to the Dilemmas of Efficiency Auditing 1978–84." *Accounting, Auditing & Accountability Journal* 11: 436–458.

Funnell, W. 2003. "Enduring Fundamentals: Constitutional Accountability and Auditors-General in the Reluctant State." *Critical Perspectives on Accounting* 14, no. 1–2: 107–132.

- Funnell, W. 2007. "The Reason Why: The English Constitution and the Latent Promise of Liberty in the History of Accounting." *Accounting, Business and Financial History* 17, no. 2: 265–283.
- Gendron, Y., D. J. Cooper, and B. Townley. 2003. "In the Name of Accountability-State Auditing, Independence and New Public Management." *Accounting, Auditing and Accountability Journal* 14, no. 3: 278–310.
- Gendron, Y., D. J. Cooper, and B. Townley. 2007. "The Construction of Auditing Expertise in Measuring Government Performance." *Accounting, Organizations and Society* 32, no. 1–2: 101–129.
- Grönlund, A., F. Svärdesten, and P. Öhman. 2011. "Value for Money and the Rule of Law: The (New) Performance Audit in Sweden." *International Journal of Public Sector Management* 24, no. 2: 107–121.
- Grossi, G., D. C. Hay, C. Kuruppu, and D. Neely. 2023. "Changing the Boundaries of Public Sector Auditing." *Journal of Public Budgeting, Accounting and Financial Management* 35, no. 4: 417–430.
- Grossi, G., and V. Vakulenko. 2022. "New Development: Accounting for Human-Made Disasters—Comparative Analysis of the Support to Ukraine in Times of War." *Public Money & Management* 42, no. 6: 467–471.
- Grasso, P. G., and I. Sharkansky. 2001. "The Auditing of Public Policy and the Politics of Auditing: The U.S. GAO and Israel's State Comptroller." *Governance* 14, no. 1: 1–21.
- Hazgui, M., P. Triantafillou, and S. Elmer Christensen. 2022. "On the Legitimacy and Apoliticality of Public Sector Performance Audit: Exploratory Evidence from." *Canada and Denmark. Accounting, Auditing and Accountability Journal* 35, no. 6: 1375–1401.
- Heald, D. 2018. "Transparency-Generated Trust: The Problematic Theorization of Public Audit." *Financial Accountability & Management* 34, no. 4: 317–335.
- Heald, D., and R. Hodges. 2024. "The Failure of the United Kingdom's Accounting and Fiscal Governance." *Accounting, Auditing & Accountability Journal* 37, no. 9: 305–335.
- Hood, C. 1991. "A New Public Management for All Seasons." *Public Administration* 69, no. 1: 3–19.
- Hyndman, N., and I. Lapsley. 2016. "New Public Management: The Story Continues." *Financial Accountability and Management* 32, no. 4: 385–408.
- Hyndman, N., and M. Liguori. 2024. "Be a Game Changer and Keep the Ball Rolling: Exploring Linkages Between Football Clubs, Charitable Foundations and Doing Good." *Accounting, Auditing and Accountability Journal* 37, no. 2: 502–529.
- International Organization of Supreme Audit Institutions. 2019. "ISSAI 3000: Performance Audit Standard." <https://www.issai.org/wp-content/uploads/2019/08/ISSAI-3000-Performance-Audit-Standard.pdf>.
- Kontogeorga, G. N. 2019. "Juggling Between Ex-Ante and Ex-Post Audit in Greece: A Difficult Transition to a New Era." *International Journal of Auditing* 23, no. 1: 86–94.
- Lapsley, I., and P. Miller. 2024. "The Emergence and Resilience of NPM." In *The Resilience of New Public Management*, edited by I. Lapsley and P. Miller. Oxford University Press.
- Lenz, A., and S. Eckhard. 2023. "Conceptualizing and Explaining Flexibility in Administrative Crisis Management: A Cross-District Analysis in Germany." *Journal of Public Administration Research and Theory* 33, no. 3: 485–497.
- Liston-Heyes, C., and L. Juillet. 2022a. "Institutional Embeddedness and the Language of Accountability: Evidence from 20 Years of Canadian Public Audit Reports." *Financial Accountability & Management* 38, no. 4: 608–632.
- Liston-Heyes, C., and L. Juillet. 2022b. "What Has Become of the Audit Explosion? Analyzing Trends in Oversight Activities in the Canadian Government." *Public Administration* 100, no. 4: 1073–1090.
- Lonsdale, J. 2008. "Balancing Independence and Responsiveness: A Practitioner Perspective on the Relationships Shaping Performance Audit." *Evaluation* 14, no. 2: 227–248.
- Lonsdale, J. 2013. "Context and Accountability: Factors Shaping Performance Audit." In *Context in Public Policy and Management: The Missing Link?*, edited by C. Pollitt. Edward Elgar.
- Lonsdale, J. 2020. "Auditing in Challenging Times: The UK National Audit Office's Response to a Turbulent environment." In *Crossover of Audit and Evaluation Practices: Challenges and Opportunities*, edited by M. Barrados and J. Lonsdale, 118–132. Routledge.
- Lonsdale, J., T. Ling, and P. Wilkins. 2011. "Conclusions: Performance Audit—An Effective Force in Difficult times." In *Performance Auditing: Contributing to Accountability in Democratic Government*, edited by J. Lonsdale, T. Ling, and P. Wilkins, 311–335. Edward Elgar.
- Mann, H. B., and D. R. Whitney. 1947. "On a Test of Whether One of Two Random Variables Is Stochastically Larger than the Other." *Annals of Mathematical Statistics* 18: 50–60.
- Mattei, G., G. Grossi, and J. Guthrie AM. 2021. "Exploring Past, Present and Future Trends in Public Sector Auditing Research: A Literature Review." *Meditari Accounting Research* 29, no. 7: 94–134.
- Midgley, H. 2019. "The National Audit Office and the Select Committee System 1979–2019." *Parliamentary Affairs* 72, no. 4: 779–798.
- Midgley, H., L. Ferry, and A. Murphie. 2024. *Holding Government to Account Democracy and the National Audit Office*. Routledge.
- Milgrom, T., and R. Schwartz. 2008. "Israel's Auditor as Policy Change Agent: The Case of Water Policy." *International Journal of Public Administration* 31, no. 8: 862–877.
- Morin, D., and M. Hazgui. 2016. "We Are Much More than Watchdogs: The Dual Identity of Auditors at the UK National Audit Office." *Journal of Accounting & Organizational Change* 12, no. 4: 568–589.
- Mueller, F. 2017. "Taking Goffman Seriously: Developing Strategy-as-Practice." *Critical Perspectives on Accounting* 53: 16–30.
- Natan-Krupp, D., and S. Mizrahi. 2024. "Public Accountability and Auditing: Why and When Do state Auditors Conduct Broad Audits?" *Public Administration* 103: 166–184. <https://doi.org/10.1111/padm.13012>.
- Pallot, J. 2003. "A Wider Accountability? The Audit Office and New Zealand's Bureaucratic Revolution." *Critical Perspectives on Accounting* 14, no. 1–2: 133–155.
- Parker, L. D., K. Jacobs, and J. Schmitz. 2019. "New Public Management and the Rise of Public Sector Performance Audit: Evidence from the Australian Case." *Accounting, Auditing & Accountability Journal* 32, no. 1: 280–306.
- Pollitt, C. 2003. "Performance Audit in Western Europe: Trends and Choices." *Critical Perspectives on Accounting* 14, no. 1–2: 157–170.
- Poole, T. 2015. *Reason of State: Law, Prerogative and Empire*. Cambridge University Press.
- Power, M. K. 1996. *The Audit Explosion*. Demos.
- Power, M. K. 1997. *The Audit Society: Rituals of Verification*. Oxford University Press.
- Radcliffe, V. 1998. "Efficiency Audit: An Assembly of Rationalities and Programmes." *Accounting, Organizations and Society* 23, no. 4: 377–410.
- Radcliffe, V. 2008. "Public Secrecy in Auditing: What Government Auditors Cannot Not Know." *Critical Perspectives on Accounting* 19, no. 1: 99–126.
- Rana, T., I. Steccolini, E. Bracci, and D. G. Mihret. 2022. "Performance Auditing in the Public Sector: A Systematic Literature Review and Future Research Avenues." *Financial Accountability & Management* 38, no. 3: 337–359.
- Richards, S. 2023. *Turning Points: Crisis and Change in Modern Britain, from 1945 to Truss*. Macmillan.

- Sargiacomo, M. 2015. "Earthquakes, Exceptional Government and Extraordinary Accounting." *Accounting, Organizations and Society* 42: 67–89.
- Sargiacomo, M., and S. P. Walker. 2022. "Disaster Governance and Hybrid Organizations: Accounting, Performance Challenges and Evacuee Housing." *Accounting, Auditing and Accountability Journal* 35, no. 3: 887–916.
- Sian, S., and S. Smyth. 2022. "Supreme Emergencies and Public Accountability: The Case of Procurement in the UK During the Covid-19 Pandemic." *Accounting, Auditing and Accountability Journal* 35, no. 1: 146–157.
- Steccolini, I. 2019. "Accounting and the Post-New Public Management: Re-Considering Publicness in Accounting Research." *Accounting, Auditing & Accountability Journal* 32, no. 1: 255–279.
- Stewart, E., and C. Connolly. 2021. "Recent UK Central Government Accounting Reforms: Claimed Benefits and Experienced Outcomes." *Abacus* 57, no. 3: 557–592.
- Stewart, E., and C. Connolly. 2024a. "UK Public Sector Fiscal Reporting: Clear and Contradictory." *Accounting Forum* 48, no. 2: 331–355.
- Stewart, E., and C. Connolly. 2024b. "The Govern(Mentality) of Financial Reporting Reform: Lessons From UK Central Government." *Public Management Review* 27: 1135–1156. <https://doi.org/10.1080/14719037.2024.2387816>.
- Tooze, A. 2018. *Crashed: How a Decade of Financial Crisis Changed the World*. Allen Lane.
- Tooze, A. 2021. *Shutdown: How Covid Shook the World's Economy*. Allen Lane.
- Volodina, T., G. Grossi, and V. Vakulenko. 2023. "The Changing Roles of Internal Auditors in Ukrainian Central Government." *Journal of Accounting & Organizational Change* 19, no. 6: 1–23.
- Wilcoxon, F. 1945. "Individual Comparisons by Ranking Methods." *Biometrics* 1: 80–83.