



A systematic and bibliometric review of the audit quality in the public sector

Marco Maggiorani^{1,*}

¹ PhD student Department of Economics, Engineering, Society and Business, University of Tuscia, Italy;
maggiorani@unitus.it

* Corresponding author

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Abstract: This document includes a systematic and bibliometric review of research outcome addressing the quality of public sector review published between 1991 and 2021. The methodology followed for systematic review foresees the use of the analysis protocol. As far as bibliometric analysis is concerned, we try to direct readers to identify the most important research, if any, and we analyse any references also in the aspect of reciprocity. The audit quality has been studied mainly in the private sector, in the public sector there are relatively few reference texts and there do not seem to be many relationships and integrations between the texts taken to reference. An efficient public audit quality can bring benefits to the population, which should consider this issue in the regulatory and institutional context as well as those who work in this field. Since this article still lacks, it contributes to literature by providing a theoretical picture of the different approaches used in the “analysis of this matter”. The framework explains that different approaches are followed to analyse audit quality in the public sector.

Keywords: Audit quality, public sector, public administration, systematic review and bibliometric

1 Introduction

Audit quality is a subject that has been studied from different perspectives and has seen the proliferation of studies especially related to the economic sphere. Over the years, the studies on audit quality have been focused on companies operating in the private sector, with the aim of analysing the different aspects and variables that can influence the audit itself.

A much more limited number of works has been focused on the analysis of audit quality in the public sector.

This has motivated the drafting of this paper, which main objective is to conduct a systematic and bibliometric review of the literature on a specific area that is less developed and analysed.

In this paper, a systematic and a bibliometric approach coexist, which allows this paper to be considered a "mixed study review". The study foresees that the research has to be carried out in both qualitative and quantitative terms, from which results can be drawn, Grant and Booth (2009).

The use of systematic review is useful to understand the developments that have taken place in the recent years about audit quality in the public sector. This is done by using a rigorous protocol that can find a common theory which puts together the different approaches used by the academics with the different causes which affect on the audit quality.

The bibliometric review analyses the number of citations received by papers to be able to identify the most important papers, and also examines the reciprocity of citations.

The first result that can be reported is that the number of works dealing with audit quality in the public sector has increased over the years. Moreover, it needs to be noted that the contexts studied and analysed are very different and the surveys that are carried out analyse different aspects of audit quality.

Some studies focus on the quality of internal audit, others measure the performance of auditors in the public sector, while others look at whether there are any influences on the work of auditors in the public sector.

Except for a few cases, there does not seem to be any mutual citation in the selected sample. In the next section, the theoretical bases useful to build a new framework related to audit quality and more specifically to the public sector are reported. In Section 3, the methodological approach is described. Section 4 contains the overall results of the systematic and bibliometric literature review of the research object. Section 5 presents the research outcomes to seek a common theoretical framework on audit quality in the public sector with the aim of reconciling the different approaches scholars are used to investigate this concept. Section 6 consists of the conclusion and limitations of the present study, which is useful to identify possible future developments.

2 Theoretical foundations

Audit quality in one of the most used definitions, that of DeAngelo (1981): "the market-assessed joint probability that a given auditor will both (a) discover a breach in the client's accounting system, and (b) report the breach" (p.186).

In the public sector, several factors are analysed to see if the quality of the audit is guaranteed: Ismail A.H., Merejok N.M., Dangi M.R.M., Saad S. (2019) find that the auditor independence and auditor competences are two important factors for an adequate audit system.

In other studies, concerning the public sector Deis and Giroux, (1992), McLelland and Giroux, (2000) assert that an increase in sector specialisation increases the audit quality.

For Copley (1991), McClelland and Giroux (2000) Ballantine et al. (2008) factors such as the reputation of the auditor and the dimension do not play a role on the audit quality.

In some studies, related to the public sector, politics influence on the audit quality in the public sector is evaluated, with reference to the independence of auditor (Sumiyana S., Hendrian H., Jayasinghe K., Wijethilaka C. 2021).

A similar work is the one performed by Cohen e Leventis (2013) on the evaluation of the greek scenario and of the delay impact of politics on the partial accounting.

3 Methods

The systematic literature review uses a scientific, rigorous, and transparent process that differs from the traditional literature review (Cook et al., 1997) and thus reduces subjectivity.

A bibliometric analysis evaluates the most cited reference papers. The process basically consists of three steps: data collection, data analysis and data synthesis. As far as data collection is concerned, the SCOPUS database was used to find research outcome that met certain criteria such as the keywords describe in following lines.

The preference for the above database stems from the fact that it is the largest database of abstracts and citations of peer-reviewed literature.

Compared to other databases, it includes not only articles, but also books, chapters - which we are interested in - or other publications such as editorials and conference reports. To be eligible, the publications had to be relevant to the research set up with the keywords 'public sector' or 'public administration' and "audit quality". Audit quality was not to be a random mentioned in the work, used to explain other phenomena.

Therefore, the most relevant studies within the international academic community were selected and the selection has been limited exclusively to peer-reviewed journals, articles and book chapters written in English. We did not include editorials and opinion pieces.

All 'grey literature' (Rothstein and Hopewell, 2009) was also excluded because published studies are more likely to meet high quality standards.

Regarding the time frame, we selected articles and chapters of books that had been published from 1991 to 2021.

About data analysis, we developed a coding guide to facilitate the analysis of the sample papers.

Several variables were identified such as the characteristics and authors, the journals, and books in which the work appeared, the type of research product (e.g., empirical, theoretical), the methodology used, etc.

All these variables were included into an Excel document that allowed us to process the data.

For the systematic literature review, the data were made operational by adhering to the "Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) by Moher et al. (2009). This choice is due to the widespread use of this protocol in the systematic review of the literature (Tam et al., 2017).

To process the results, some of the functions of Excel were used, as mentioned above. These include the construction of polynomial graphs that allow an indication of trends which then allow to understand the development of the phenomenon studied and what the development has been over the years. As far as our bibliometric analysis is concerned, this article has also sought the mutual references between the authors of the different papers.

As for the synthesis, we have tried to group the publications of the audit quality in the public sector according to the topics covered by the different works.

4 Results

4.1 Article selection

The inclusion criteria used in the SCOPUS database identified 37 results incorporating articles, journals, book chapters and excluded conference papers. Focusing on English publications that passed the peer-review process, its number drops to 35. The selection was therefore limited to the years 1991 to 2021.

Among them, there are 30 articles and 5 book chapters. A first interesting result of this work is that the number of researches, available in the SCOPUS database, that focus specifically on audit quality in the public sector is low.

The criteria used for inclusion in the sample were that the articles being selected contained the terms "audit quality" and "public sector" or "public administration" and that there was a reference to the selected words in the abstracts.

Given the stringent criteria in the search for the articles under study, almost all the results were studied.

4.2 Results of the systematic literature review

During the analysed period, the interest in the topic of audit quality in the public sector increased until 2017, then underwent a slight decrease in the number of articles in 2018 and 2020 saw a new consistent increase in the years 2021.

The trend lines of the number of articles seems to have an increasing trend that has not yet reached its peak. This suggests that the topic has yet to be developed and has not reached its maturity, which may be a starting point to work on to continue developing contributions in this area.

With reference to the present book chapters, the following have a significant impact on the analysis the four articles all extracted in 2020 from Nedyalkova's book.

Figure 1 shows that distinguishing articles from book chapters, in most of the years analysed, the number of articles published in peer-reviewed journals is always higher than or equal to the number of book chapters.

Figure 2 also reveals an increasing number of authors per year, suggesting a growing interest of scholars in the topic of audit quality in the public sector.

According to our data, all research publications are written by academics.

Regarding the identity of the authors, the analysed research produces a list of 72 names, with on average two authors per publication. In most cases, each scholar is the author of a single paper except for Johnsen, Kusumawati and Nedyalkova.

The research containing empirical analyses show with separate statistical tools case studies, interviews, and regression analyses. The analysis of the methodology adopted by scholars found that in 30 of 35 papers, they used empirical methods to answer to the research questions; the other 5 are theoretical, while articles are empirical. Papers that contain empirical analyses have used very different statistical tools: 26,67% of them (8/30) have used interviews, 43,33% of them (13/30) regression analysis, 10% of them (3/30) case studies, 20% of them (6/30) other statistical tools.

The studies analysed different contexts which are: 5,71% (2/35) analysed cases from African countries, a single study analysed the reality of Oceania with a percentage that stood at 2,86%; 25,71% (9/35) the situation in the various European countries, the same percentage is attributable to studies on Asian countries (4/35), 11,43% dealt with the American continent, and the remainder dealt with general topics not related to individual countries or geographical areas that relate to the subject under study.

This may be a further indicator of how the process of analysing audit quality in the public sector is of great relevance in different geographical contexts with different regulations that may affect the results obtained in the various studies.

The Figure 1 shows the trend-line and the total number of researches published in each year of the timeframe analysed in this paper. It distinguishes the number of articles and book chapter.

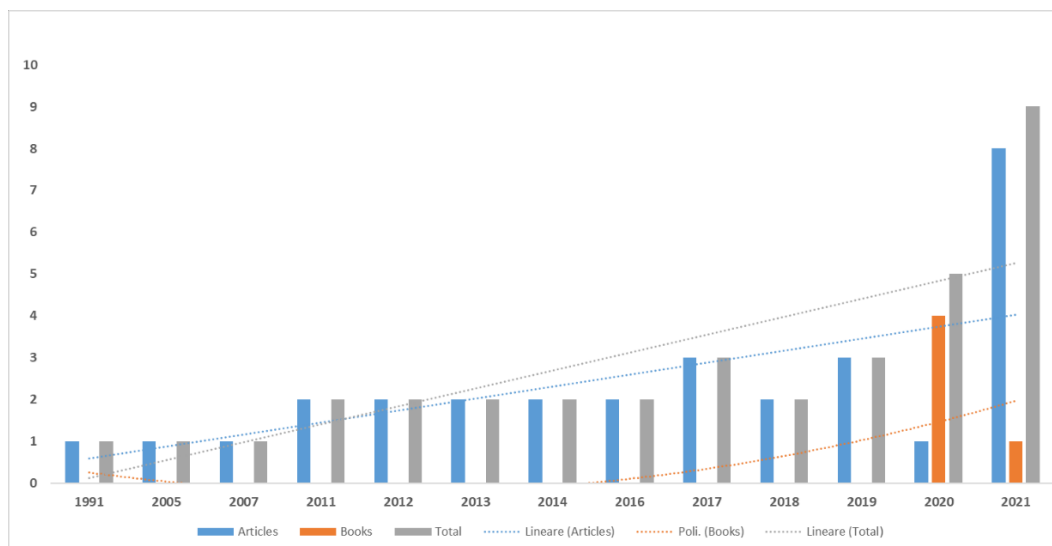


Figure 1. Number of researches in the timeframe analysed

The Figure2 shows the polynomial trend-line and the number of authors that deal with audit quality in the timeframe analysed in this paper. It can be useful to demonstrate the growth over time of the research community.

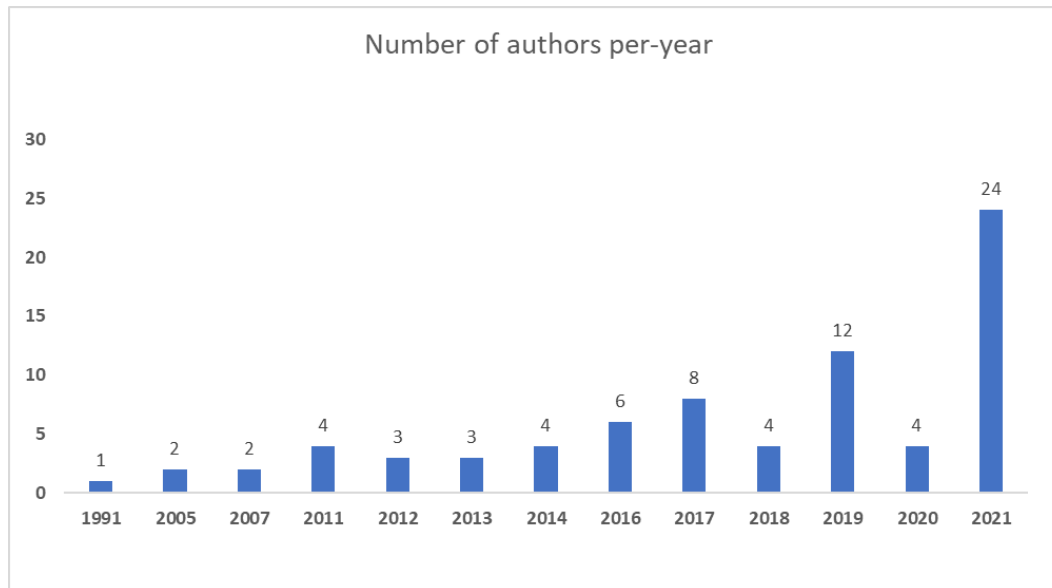


Figure 2. Number of authors per year

4.3 Results of the bibliometric analysis

The data reveal that the article that received the most citations was that published by Mihret D.G., Yismaw A.W., (2007) with 112 citations, published in *Managerial Auditing Journal*, followed by the publication of Copley P.A. (1991) in the *Journal of Accounting and Public Policy* with 52 citations and the paper by Jensen K.L., Payne J.L (2001) with 31 citations.

This indication, although it may indicate that these articles may be references for the field must consider that they are the three longest published papers. All published in high level journals, certainly have the potential to be cited in the coming years and in the future; however, it should also be added that, as Figure 3 and Figure 4 shows, there does not seem to be a random link in the number of citations as the trend of the polynomial changes its convexity for the period under investigation.

About the network analysis, Figure 5 shows the articles references of the articles in the sample to identify the most important research.

The network shows that the community of scholars dealing with the topic under analysis is poorly integrated. This could be due to the small number of studies dealing with the topic and the different aspects analysed of the topic that are not always related to each other and thus implicitly to the lack of a paper developing a common theoretical framework.

The results show that only twelve research papers appear in the network. It is interesting to note that the nodes can basically be grouped into three groups. The first counts seven nodes (i.e., Copley, P.A. 1991; Giroux, G., Jones, R., 2011; Jensen, K.L., Payne, J.L. 2005; Cohen, S., Leventis, S. 2013; Greenwood, M., Zhan, R. 2019; Johnsen, Å. 2021; Donatella, P. 2021), all related to the evaluation of audit quality in individual, municipal or national

public sector contexts. The second includes two nodes (e.g., Langella et al. 2021; Caruana J., Kowalczyk M. 2021) that focus on audit quality starting from an assessment of the composition of the auditing bodies. The third includes two articles (i.e. Nedyalkova, P. 2020; Mihret, D.G., Yismaw, A.W 2007) that mention the same topics.

The Figure 3 shows the average number of citations over the period 1991-2019. The Figure 4 focuses on the period 2011-2021.

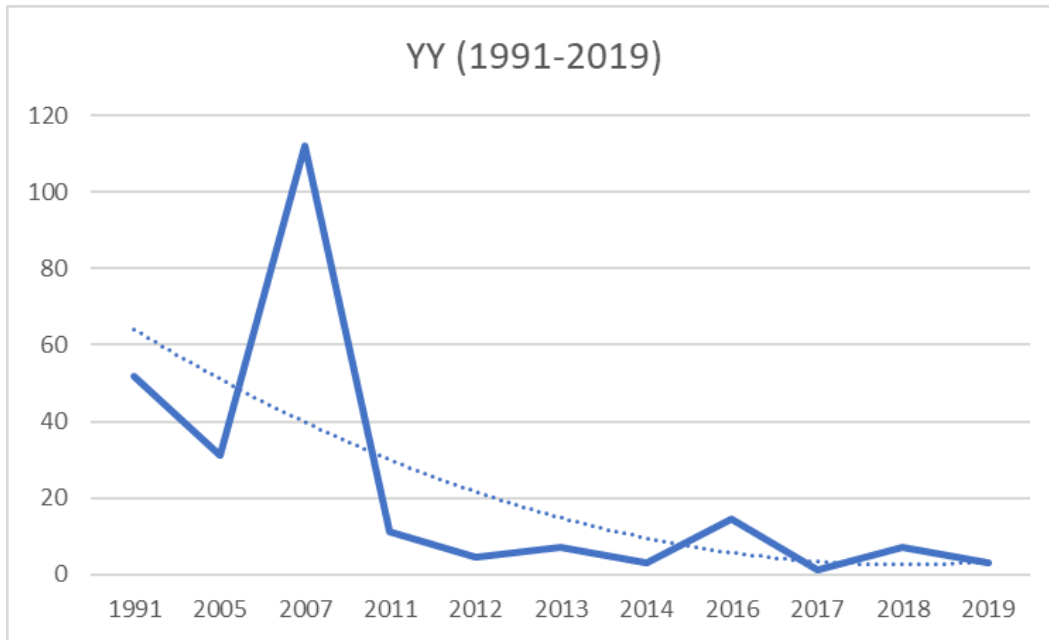


Figure 3. Average number of citations per product

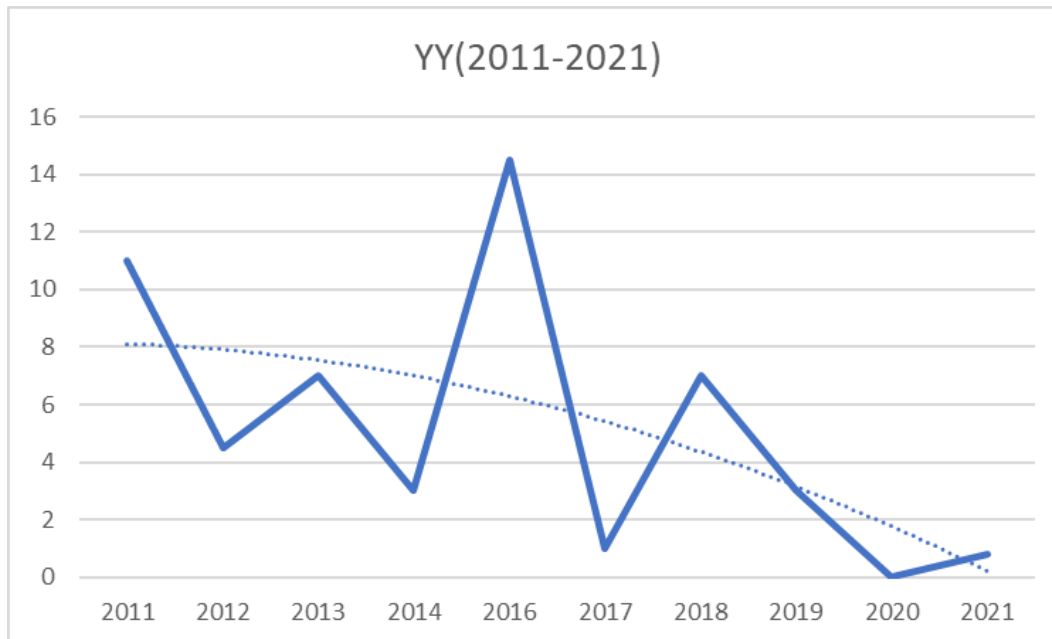


Figure 4. Average number of citations per product

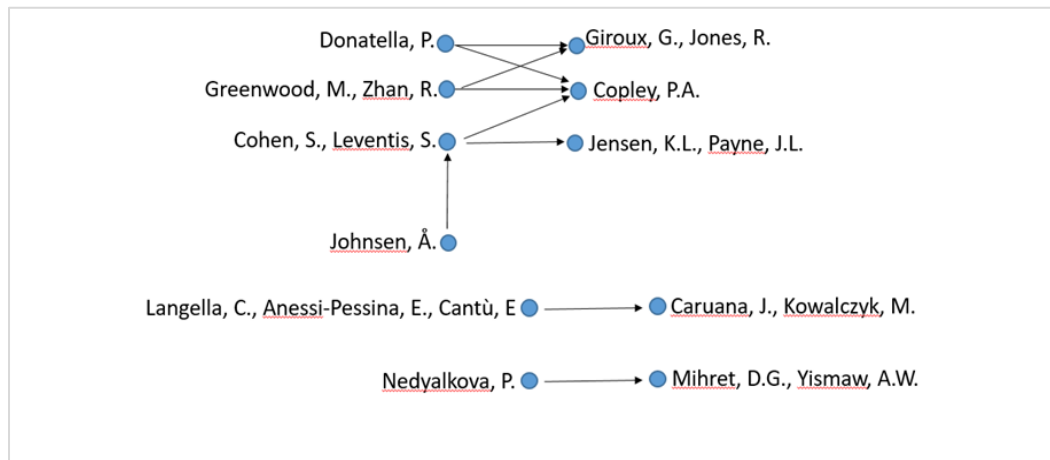


Figure 5. Network analysis

With regards to the citation aspect, it should also be added that in the sample examined there are very few citations between authors and in all cases, they are not reciprocal.

There does not seem to be integration among scholars in the field, this may depend on the different themes and practical cases with which audit quality in the public sector is analysed.

5 In search of a common theoretical background

Trying to summarise what has just been reported in the previous paragraphs of the systematic literature review, we can try to group the studies of audit quality in the public sector based on the specific characteristics of the public sector according to the specific strand they deal with.

From the literature review and the data returned to us, it seems that the production of work on audit quality in the public sector is developing heterogeneously.

It is possible to find some peculiarities in some studies, as in the case cited above by Sumiyana S., Hendrian H., Jayasinghe K., Wijethilaka C. (2021) but also that developed by Johnsen, Åge; Reichborn-Kjennerud, Kristin; Carrington, Thomas; Jeppesen, Kim Klarskov; Taro, Külli; Vakkuri, Jarmo (2019) we focus also on a reading that evaluates the political component and the possible distortions that it can bring to the audit quality at the public level. In the cases mentioned above, it must also be considered that mechanisms which may be productive for more developed countries, tending to be Western ones, may be less effective in developing countries, or mechanisms that are considered effective in the West are not effective enough.

A second strand can be linked to how the audit structure works in specific countries, especially about internal audit, as for Greenwood M. Zhan R (2019) and Giroux G., Jones R. (2011) that measure the quality of internal audit. In the first case to see if it succeeds in reducing the distorting effects that can be created when closing financial reports, or as in the second case how auditing is provided and by whom to local government in Wales and England whether the quality is the same quality as that provided to private companies, and which bodies primarily carry out this task.

The work of Johnsen (2021) is also in this thread. In this case it is examined from a different point of view that it aims to assess whether there has been a reduction in audit prices following deregulation in Norway and how professional services can be made more efficient in the public sector following the introduction of contracting and the possibility of contracting out audit services. This study also shows that there is an appropriate balance between audit quality and political choices. Figure 5 shows that Johnsen's work mentions the work of Cohen S., Leventis S. (2013) who try to identify what, through the creation of an empirical model, should be the prices of audit in the public sector and what can be the variables that affect it and how much the political factor can affect its determination.

Based on what has just been mentioned, especially the articles by Johnsen (2021) and Cohen S., Leventis S. (2013) the framework that could be inferred to analyse audit quality in the public sector is the following:

- Analysis of the socio-economic and legal contexts
- Analysis of the variables under study
- Impact of political choices

In order to find a common approach to the different studies that have followed one another over the years, therefore, it may be useful as a first objective to understand which context, geographical area, one finds oneself analysing; this may help because it also allows one to understand how the variables studied to evaluate audit quality may be influenced by the different supranational and state regulations but also because the political choices in different geographical areas may or may not affect the results. Furthermore, it is necessary, especially in the public sector, to try to evaluate not only the analysis of the single components but also the evaluation of the efficiency brought to the community and to look for a measurement of the political "variable", to find a balance between the two types of studies hypothesised.

6 Concluding remarks

The attention of the academic world to audit quality analysis in the public sector too is becoming increasingly important, as highlighted above.

This paper has attempted to provide a theoretical framework that can summarise the various approaches that are followed and the contexts in which they operate, while also highlighting the differences in terms of both regulations and institutions.

The view that can be drawn from this is that, in addition to the methods and characteristics of audit quality, there are other components that can influence it even indirectly and that, above all, in the regulatory and normative phase, it can affect greater efficiency in terms of auditing.

In academic terms, there are many studies that can be developed on this subject, given the few documents available.

Although we have used specific criteria in the inclusion of reference articles, the study has potential limitations due to possible bias in the selection of publications and inaccuracy in data extraction.

This could be due to limitations of the procedure, which is generally not considered optimal (Moher et al., 2009) and is subject to publication bias. Future studies could widen the research sample produced by using other databases or documents to increase the robustness of the results and to check whether they match the results of this work.

There are many future scenarios in the industry, one of the main important it will be to investigate audit quality in the different states, with different legislations and different policy, choices and the resulting evaluation will also be revising on the individual variables observed.

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