

**БИБЛИОМЕТРИЧНО ПРОУЧВАНЕ НА ЦИТИРАНИЯТА В  
КОРПОРАТИВНОТО УПРАВЛЕНИЕ**

**Мирослав Неделчев**

**A BIBLIOMETRIC STUDY OF CITATIONS IN CORPORATE  
GOVERNANCE**

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***Abstract***

*The aim of the paper is carrying out a citation analysis in the fields of corporate governance. The research goal is to identify the dynamics of citations. The analysis covers 2322 publications and 14140 citations for the period 1999-2016.*

*The analysis determines a peak of publications at the beginning of the period, which can be explained by the introduction of Corporate Governance Principles by the Organization for Economic Cooperation and Development. The number of citations declines after the first two years after publication. The results of the analysis are formulated as recommendations for improving publications and increasing the number of citations.*

***Keywords:*** corporate governance, bibliometrics, citation analysis, SSRN

***JEL Codes:*** C89, G34

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**INTRODUCTION**

The bibliometrics is an approach for quantitative analysis of publications. At the base of the bibliometrics are statistical methods for analysis of a particular research topic (Nedelcheva, 2017). The modern reality, a big number of electronic libraries and Internet research networks, is a benefactor for implementation of bibliometrics as well as for new results for science and lessons for practice.

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The citation analysis is a bibliometric method for determining leading publications. It identifies authors, methods and theories that give an idea of the genesis and evolution of a research topic (Ding, et al., 2000).

For completeness when presenting the citation analysis, we should also take into account its criticisms:

- It is assumed that the citation will only be made after a detailed introduction to a scientific study. In most cases (70-90%), citations were made by mechanical reference to scientific studies without their in-depth content knowledge (Simkin & Roychowdhury, 2005).

- Leading scientific publications are mainly cited in the introduction, discussion part and conclusion, but not in the literature review and methodology. In some cases, such citations aim to identify the author as a professional for a given topic (Sutton & Staw, 1995).

## **DATA SOURCE AND METHODOLOGY**

We will use the Social Science Research Network (SSRN) as a data source. The electronic database was founded in 1994 as a scientific network for rapidly spreading the achievements in the field of social sciences incl. corporate governance. Its main advantage is the use of web technologies and the free public access of forthcoming publications.

The present analysis covers the period 1999-2016. The starting point of the analysis was determined due to publication of Corporate Governance Principles by the Organization for Economic Cooperation and Development in 1999. The endpoint of the review is determined by the available publications and their citations to the previous year - 2016.

The analysis includes all publications that contain in their title the term “corporate governance”, the publication's file is attached and has free access.

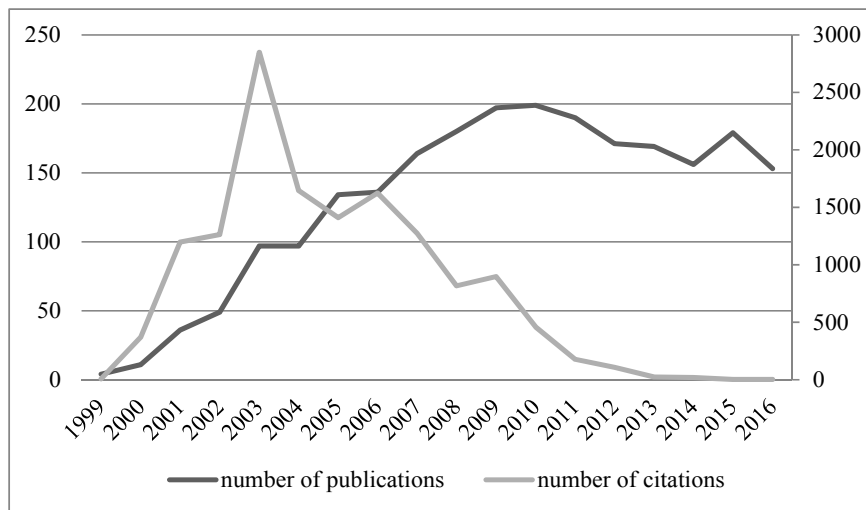
## **RESULTS**

The dynamics of publications outlines key points in the development not only of corporate governance but also of society and economy. It is noticeable a lag of two years between the core event and its coverage in publications. The logical explanation for the phenomenon is the impact of publishers on publishing, incl. the time for publishing of publication in the electronic database.

We are going to analyses 2322 publications and 14140 citations (Figure 1). Thereof 861 publications are cited (37%), with the percentage of uncited publications approaching previous results - 55% (Pendlebury, 1991).

The present analysis reveals “citation inflation” for the period 2000-2004. It consists of overtaking the dynamics of the number of quotes versus the dynamics of the number of publications (Ware & Mabe, 2015).

*Figure 1. Number of publications and citations*



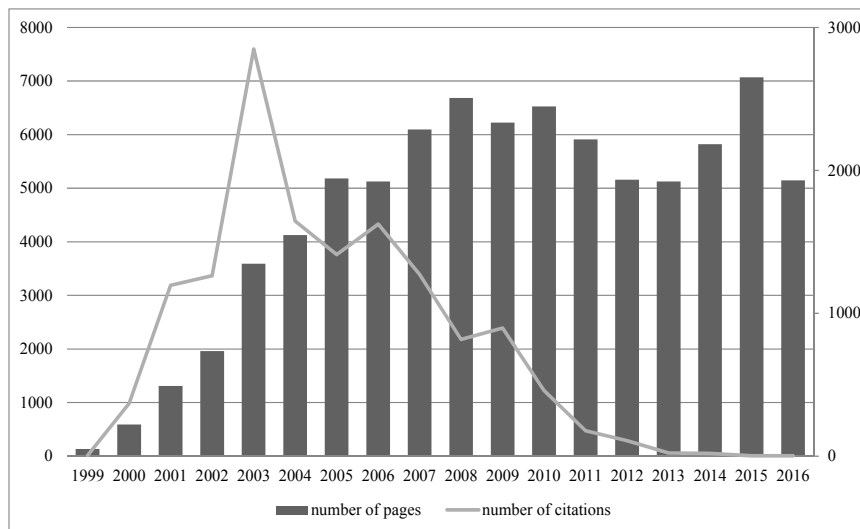
The type of publication impacts the number of citations. For example, publications from scientific journals have highest number of citations, followed by discussion materials. At least citations have chapters of books, whereas reports from scientific conferences have not citations. Close results were received in 2010 - publications from journals are most cited, then chapters of books and finally - reports from conferences (Kushkowsi, 2010).

There is a special approach for bibliometric study of citations in corporate governance - tracking the citations of an article over time and establishing its impact (Huang & Ho, 2011). Through this approach, the most commonly cited documents are identified, for example, the most commonly cited work is “A Survey of Corporate Governance” by A. Shleifer and R. Vishny. It was cited

695 times since its publication in 1997, and we suppose that the peak of citations is linked to the financial crisis in 2008.

At the beginning of the survey period, the publications introduce the key terms and definitions of corporate governance (Nedelchev, 2017). Their character is universal, which explains their frequent citation at later stages. Depending on the volume of publications, two periods are outlined: up to 2008 with a larger volume of 40 pages on average per publication and after 2008 - an average of 33 pages (Figure 2). The decrease of the volume of pages in time leads to decreases of the number of citations

*Figure 2. Number of pages and citations*



The volume in pages does not directly impact the number of citations. For example, the publication “Quack Corporate Governance” by R. Romano has a small volume of 9 pages and a large number of citations - 160.

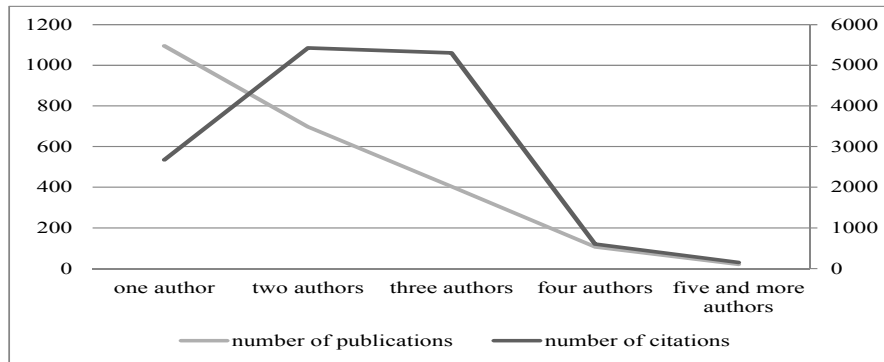
The number of citations marks the largest volume in the period 2003-2006. The peak of citations in 2003 is due to a one single publication, “Corporate Governance and Equity”, by P. Gompers, J. Ishii and A. Metrick. It is cited 1281 times with a lag of five years, i.e. is cited for the first time in 2008, when it was the peak of the world crisis. The financial theme of the publication coincides with the economic direction of the crisis and the search for ways to

reducing the effects of the crisis. In the same year, 2008, is the biggest number of cited publications - a total of 53. The beginning of the financial crisis in 2008 explains the increased number of citations of publications containing financial terms in keywords - “financial engineering”, “firm performance”, and “market value”.

A bigger number of co-authors are one of the features at the current stage of publishing (the other features are growth of published literature and increased volume of references) (Elsevier, 2011). The average number of authors per publication grew in the second half of the 20th century (Ware & Mabe, 2015). Increasing the number of authors depends on the scientific discipline: the greatest number of co-authors has in the field of physics and astronomy, and small growth in mathematics and social sciences. The increase in the number of co-authors reflects the tendency for international co-operation in conducting researches and publishing their results.

In our analysis dominate publications by more than one author (Figure 3). A research interest presents the case of publication with one author and two or three authors - increase of number of authors lead to increase of number of citations. In the case of publication with four or more authors the reverse dependence is observed - an increase in the number of authors leads to a decrease in the number of citations.

*Figure 3. Number of authors, publications and citations*



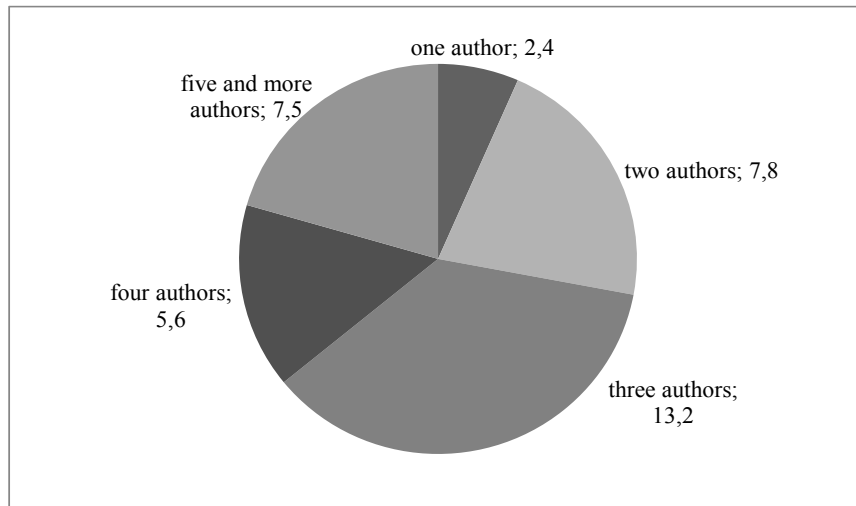
With the largest number of authors (13 persons) are two publications: “Making Corporate Governance Codes More Effective: A Response to the

European Commission's Action Plan of December 2012”, 2013 and “Inside-Out Corporate Governance”, 2011. There are not citations for both publications.

The number of authors influences the number of citations when in the team of authors is involved a leading expert of corporate governance. In the case of a citation of a publication in which a leading expert participates as an author, the citation is counted as one citation for every author. These cases artificially increase the number of citations because it is not possible to determine with great precision which of the authors contributed to the citation.

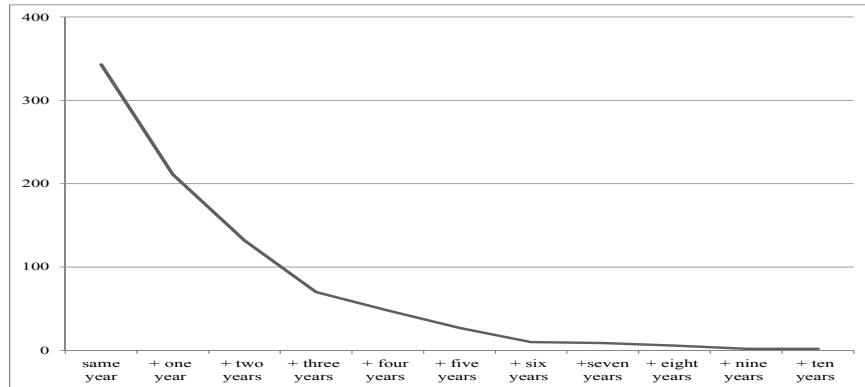
The number of citations exceeds the number of publications and each publication has average 6.1 citations. The publications by two and by three authors have highest percentage of citations – 7.8 and 13.2 citations respectively (Figure 4).

*Figure 4. Number of authors and average number of citations*



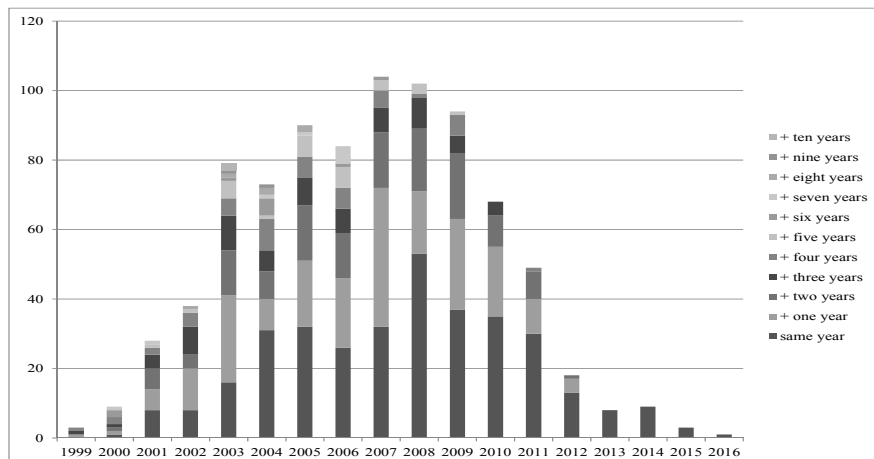
Most of citations are registered in the same year of the publication, one year and two years after the publication (Figure 5). Since the third year after the publication, the number of citations falls sharply.

Figure 5. Time lag between year of publication and year of citation



The publications in 2003 and 2004 have largest time lag between the year of publication and the year of first citation (Figure 6). They are cited 8, 9 and 10 years after their publication. In most cases, these publications set out key corporate governance moments and, to a large extent, the relationship with finance. Our explanation of the phenomenon is the measures to deal with effects of international crisis of 2008 and previous publications on signals for the beginning of the crisis and its dimensions.

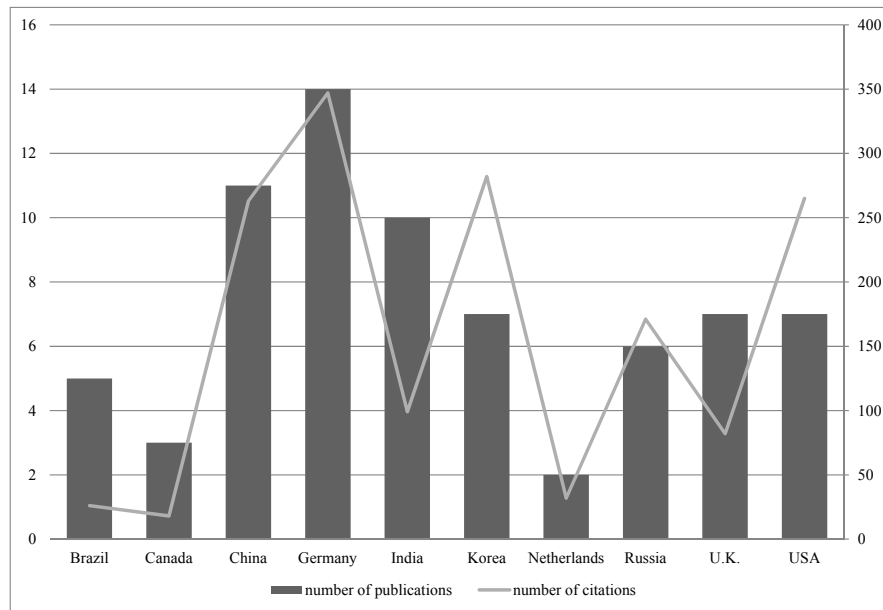
Figure 6. Time lag between publication and citation by years



As proof of our explanation are the data for 2007, 2008 and 2009. The publications of these years mark a large number of citations until the fifth year after their publication and no citation from the sixth year.

The publications and their citations reflect the good practices of corporate governance in individual countries. It should be reflected that non-OECD countries are in the top 10 countries by number of publications and citations (Figure 7). These countries can be defined as “G10” for corporate governance. Their nomination in top 10 differs for every country. Germany has the biggest number of cited publications - more than ten publications. The other countries have few publications with a large number of citations.

*Figure 7. Top 10 countries by number of publications and citations*



Outside the top 10 countries by number of publications and citations, there are non-OECD countries which are in transition to market economy. We should name countries incl. Armenia, Bulgaria, Georgia, Ukraine and others that, alongside the effects of the crisis, have made a transition to a market economy and adopting good practices in corporate governance.



## CONCLUSION AND RECOMMENDATIONS

The publications reflect the scientific achievements on the example in the fields of corporate governance. By analyzing citations, we identify those publications that have contributed most to the development of good practices of corporate governance.

The publishers have a major role for publications and citations. Their publishing policy and requirements for reviewers greatly influence the end result for each analysis. This conclusion is relevant to respect of the speed at which the publication is published and, accordingly, to be cited. It is therefore recommended to use electronic libraries that allow free public access to forthcoming publications. A good example of such an e-library is the SSRN, whose selection assists in performing the present analysis.

At the beginning of the selected period, the citations mark a peak due to the introduction of key concepts in corporate governance by OECD. In the next stage increases the number of authors and arises a time lag for first citation, which is explained by the measures taken to reduce the effects of the international crisis. At the last stage, publications focus on good practice in a particular country, which reduces citations after the second year of publication.

We will present the results of present analysis as recommendations for increasing citations of corporate governance publications:

- The publication to use a quantitative methods and, in rare cases, qualitative and conceptual methods.
- The publication should not target at national corporate governance reforms such as the Dod-Frank Act or the Sarbeny-Oxley Act.
- The title of the publication should not include a specific country or a geographic region. For example, the data from present analysis does not indicate citations from a combination of countries (Germany, Japan, USA), a geographic region (Sub-Saharan Africa), political unions (European Union), a continent (Asia, Europe).
- The title of the publication should not specify a concrete case, irrespective whether the case is positive (CalPERS) or negative (Enron).
- The title of the publication should include the scientific approach used. For example, the data from present analysis reported a large number of citations when the title includes “evidence”, “case study”, and “comparative analysis”.
- The keywords of the publication should include theories in the fields of corporate governance. For example, the data from our analysis reports a large

number of citations when pointing two theories: Agency theory и Path dependence theory.

- The publication should be by two or three authors and, in rare cases, by one author.

- The publication should have pages above the average volume (36.7 pages).

For a complete view of publications and citations in the fields of corporate governance quotes, it is recommended to carry out a new analysis of the same database in terms of theories. In certain periods, a concrete theory is accepted or rejected, which implies an impact on practices. The dynamics of publications will show the development of theories and practices of corporate governance, including their citations.

A further recommendation is to carry out the same analysis after a certain period of time, for example after three years. The time analysis with actual data will show the dynamics of the publications and their citations.

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