

REVIEW

Auditing: An Analysis of Scientific Production in Scopus

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Abstract:

Scientific databases make it possible to keep abreast of the progress of science on various topics. This paper reviews bibliographically, the basic concepts and scientific production on auditing to analyze its frequency and trends. For this study we proceeded to collect information from the SCOPUS database, from the year 2014 to 2019 from the subarea of business and economics. Among the main results, Spain stands out as the country with the highest scientific production, with 43.55% of authors having written about auditing. Latin American countries do not present a greater participation in articles related to auditing: Ecuador reached 7.2%, Colombia 2.9% and Brazil 13%. The information reflects that most of the work done has been applied to the private sector, focusing its research directly about audit consulting with 23.2% of the global total. In the United States, the most widely applied approach is that of general auditing, which refers to studies that highlight the importance of auditing for a company. The data analyzed indicate that the countries of Europe are the ones that develop the greatest amount of scientific production, while the continents with developing countries have a low level of representativeness.

Keywords: Auditing, Bibliometrics, Scientific Production, Scopus

Introduction

The concept of accounting auditing arose with the financial and economic failures of the stock companies born of the industrial revolution (1). Auditing verifies that the financial, administrative, and operational information generated in a period is reliable, truthful, and timely (2). Therefore, the need to control processes under a worldwide application standard was born. Thus, in England,

the first institute of officially qualified auditors, who were responsible for reviewing the financial situation of companies that survived the recession of that time (1), was created in 1880.

The importance of auditing functions throughout the world is carried out by both, public and private organizations, acting as a control and information system for different sectors, such as banking, insurance, public and stock market (3). Therefore, the investigative processes of the audit results need to be validated so that anyone who is interested in the information can carry out a verification on the proposal (4). Several authors have chosen to carry out research articles to make known the findings of their work to the world. There are countless articles published around the world that contribute significantly to academic knowledge (5).

Pritchard (6), in his book "Statistical bibliography or Bibliometrics" was the first to define, in 1969, the term Bibliometrics as an application of statistical and mathematical methods designed to define the processes of written communication, its nature and the development of scientific disciplines by means of techniques for counting and analyzing such communication. Bibliometrics plays an important role when it comes to comparison, since it gives a quantifiable value to the results of the study of a given scientific activity (7). Bibliometrics oversees performing mathematical or statistical formulas on a determined number of scientific articles and their authors with the purpose of quantitatively analyzing scientific activity. Bibliometric indicators are instruments used to measure the information on the results that scientific activity has produced. (8).

For science and experts, the results generated from bibliometric studies have acquired valuable importance, they are perceived as a strategic value that generates useful results for the interested parties in the validation and analysis of the information (9). The United Nations Educational, Scientific and Cultural Organization (UNESCO) and the Organization for Economic Cooperation and Development (OECD) have created three manuals of methodologies that help in the development of bibliometric indicators in the different sciences. The first one is the Oslo Manual, which offers survey methodologies for data collection. The second one is the Canberra Manual, which provides methodologies to evaluate human resources, and the Frascati Manual, which includes aspects of input measurement (10).

Nowadays, technological advances have contributed with bibliographic databases of scientific productions, facilitating the use of bibliometrics, revealing indicators to measure the results of scientific and technological activity (11). In Ecuador, the constant search for higher academic excellence is one of the main objectives set by the Council for Evaluation, Accreditation and Quality Assurance of Higher Education (CEAACES). In the Organic Law of Higher Education, issued in October 2010 (12), the universities must comply with specific guidelines and standards to accredit as universities with academic quality and social relevance (13). The realization and publication of academic articles as part of a scientific production, significantly enhances the academic performance of universities, which are also constituted as a center of research and contribution of knowledge to the world (14).

By performing a bibliometric analysis in the field of auditing, in addition to providing a database for the optimal use of information, it allows to know the evolution of publications in this area. Universities today aim to provide the creation of new knowledge through scientific, technological, humanistic, and social research; this function is elemental when evaluating the quality of universities in the country (15).

This article, through the information collected from the SCOPUS database from 2014 to 2019, analyzes the published scientific production regarding auditing and establishes possible trends.

Methodology

The research developed is descriptive, based on the review of scientific papers published in the SCOPUS database from 2014 to 2019, last 5 years to the date the investigation began, concentrating the research on articles in the sub-area of business.

The total number of articles published from 2014 to 2019 was 148. Those applied only to the thematic area of Business, Management and Accounting were filtered, and only 69 articles were obtained. Each of the articles and their data were descriptively classified by categorizing them according to established variables that facilitate the proposed study. The variables applied were: Title, Year, Authors, Journal, Language of publication, Number of authors, Gender of Authors, Country of origin first Author, Continent, Focus, Type of company, Scope and Methodology.

Contingency tables were then generated with these variables to determine possible relationships or dependencies between them.

Results

The evolution of the amount of scientific production allows observing its growth or decrease, which is subject to other social or political factors. Fig. 1 shows, in 2014, a production of 24.64% of the total number of publications made in the study period. A total decrease is observed in 2016 with the publication of only 2.90% of the total number of works analyzed. While it is true that since 2016, the growth curve of scientific production increased until 2018, during the year 2019, publications suffered a large decline.

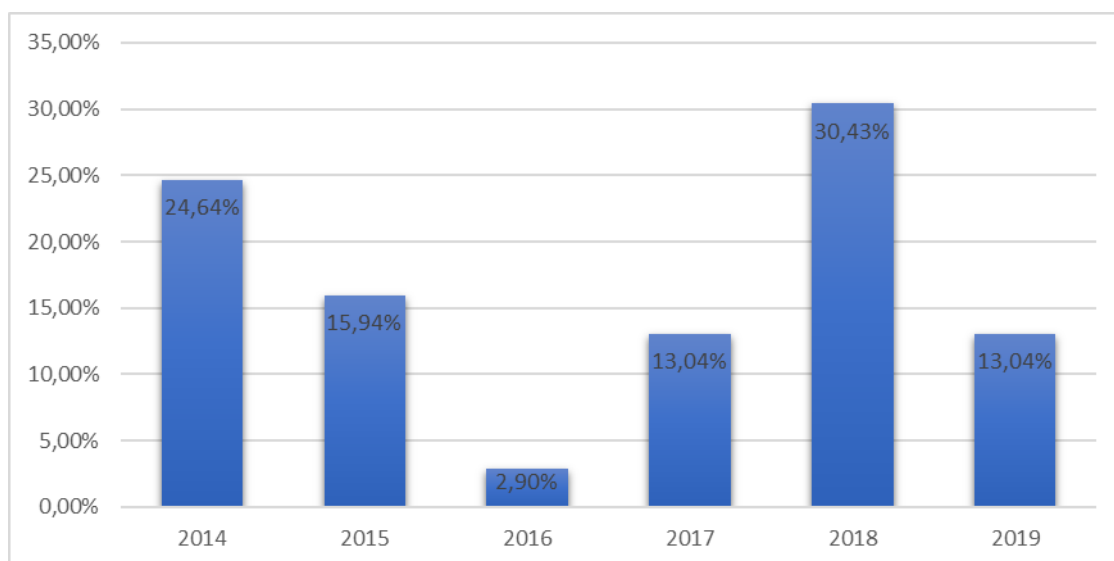


Figure 1 Articles published per year.

Within the period analyzed, three languages are reflected in the articles published; the most widely used is English, with 47.83% of the total. Most of the papers in this group come from European countries, such as Russia and Spain. Spanish is the second language with 39.13%, and Portuguese with only 13.04% of scientific production. Portugal and Brazil are the only countries that publish in their language. This situation indicates that most of the publications are made for journals and pages whose publishing are made in English.

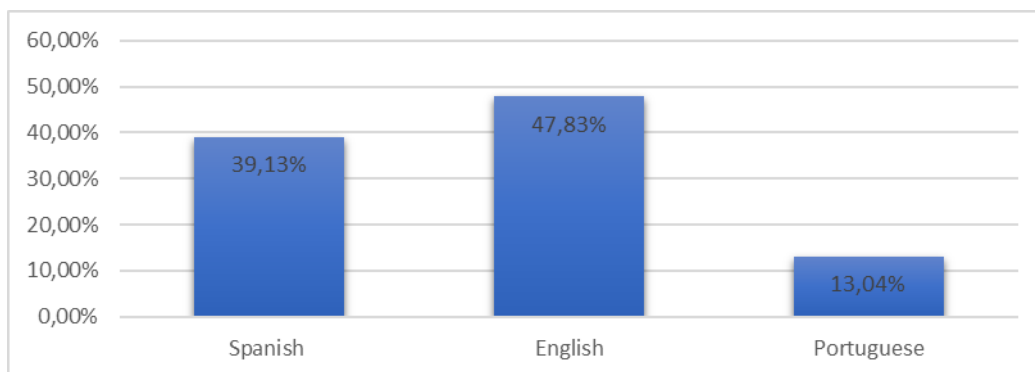


Figure 2 Language of publication by number of articles published.

With the data collected, the values of 16 countries worldwide were obtained. Spain stands out as the country with the highest scientific production, with 43.48%. Journals such as *Revista de Contabilidad - Spanish Accounting Review* and the *Spanish Journal of Financing and Accounting (REFC)* publish most of the work done by professionals in the area and students from local universities. Of the sample, Brazil contributed with 9 articles, mostly of national analysis with collaboration of foreign professionals, followed by Russia and Ecuador with 5 publications each, totaling 7.25% of scientific collaboration. All of them regard national analysis and with native authors. The level of production of the remaining 12 countries is only 14.49% altogether.

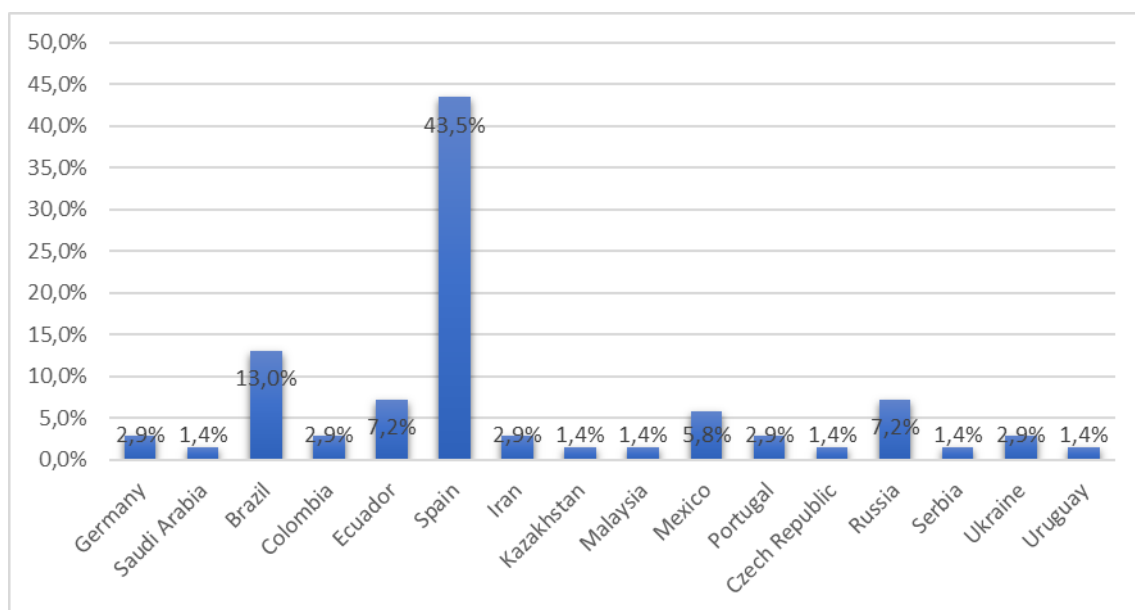


Figure 3 Production per-country

Spain is the country with the highest number of employees, accounting for 43.55% of the total. Brazil and Russia follow as the countries with the highest number of contributors, although they do not manage to exceed the average level of Spain. Ecuador stands out with authors with 6.99% participation, which places it as the fourth country with the highest number of collaborations.

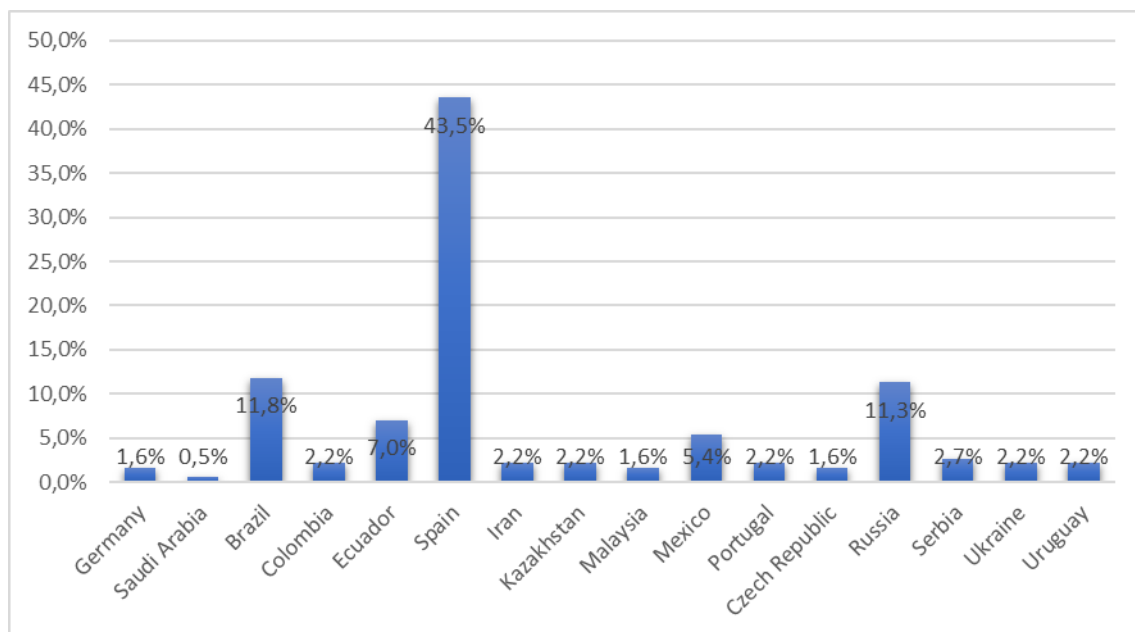


Figure 4 Authors per-country

Relation between variables

The analysis of the author's gender is important while determining who are those who contribute most to the scientific production. The 60.75% of authors are male, 40.7% of them belong to Spain, 15% are from Brazil, 6.2% from Ecuador, 5.3% are from Russia, which leaves 32.74% of male authors from other countries. Women have a great contribution in scientific production, and in some countries female authors have more participation than male authors. Spain shows 47.9% of female participation, but there are also countries such as Saudi Arabia and Iran where there are no female contributions.

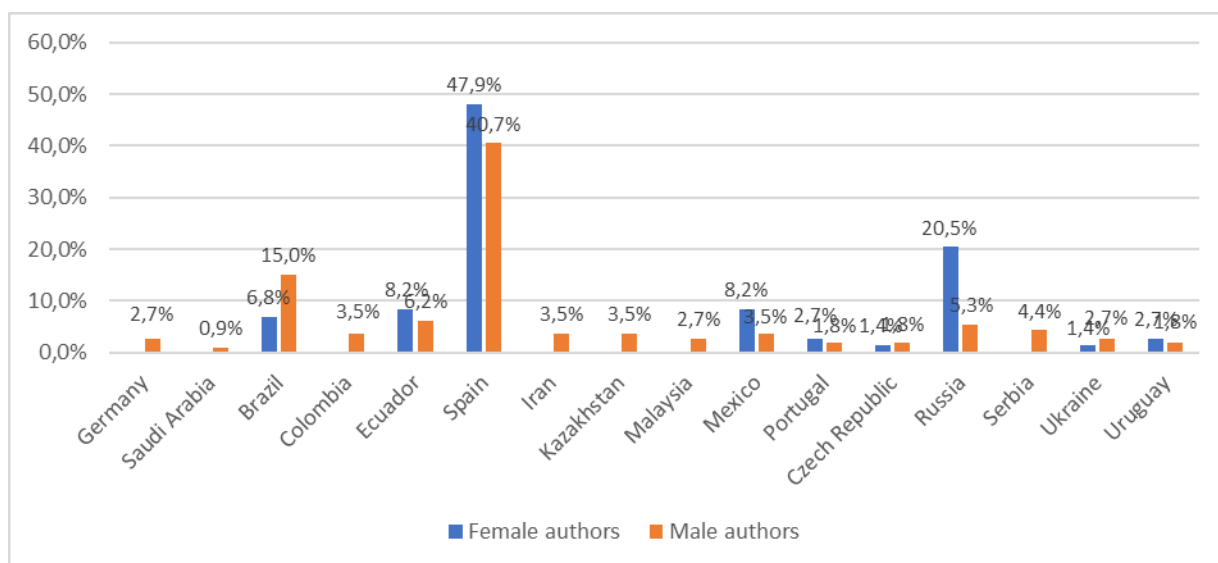


Figure 5 Analysis of authors gender per country

The data reflect that most of the research has been applied to the private sector. They focus their application directly on the subject of audit consulting with 23.2% of the overall total. Within the topics studied, the satisfaction obtained by the final client with the work performed by the auditor is reviewed, as well as the trust and satisfaction. Works performed to measure the auditor's performance in comparison with his salary or bonus are the ones classified within this type of auditing. The second most applied approach corresponds to the general auditing; in this approach are those that describe two or more auditing applications in the same work, whose concern is focused on a global view of the company studied. In most cases, the financial, operational and internal approach are studied together for a more in-depth study. The financial auditing is the third approach that has more application.

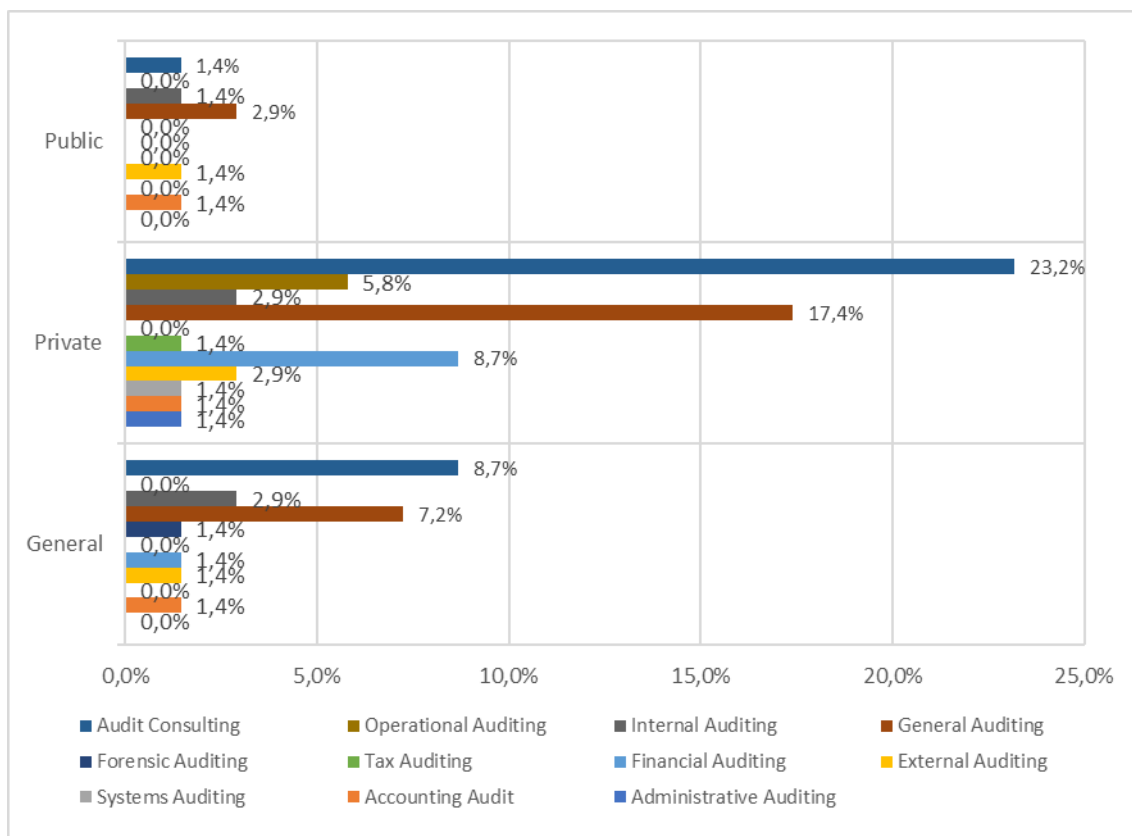


Figure 6 Focus analysis by type of company.

The analysis by continent shows that in America, the most applied approach is the "General Auditing." It is considered important for the audit analysis, in a global way, for a company or sector. In Asia "Internal Auditing" and "General Auditing" are the only approaches studied with the same percentage of application. In Europe, 29% of works are directly applied to the analysis of "Audit Consulting", 14.5% focused on "General Auditing" and 5.8% on "General Auditing" and "Financial Auditing".

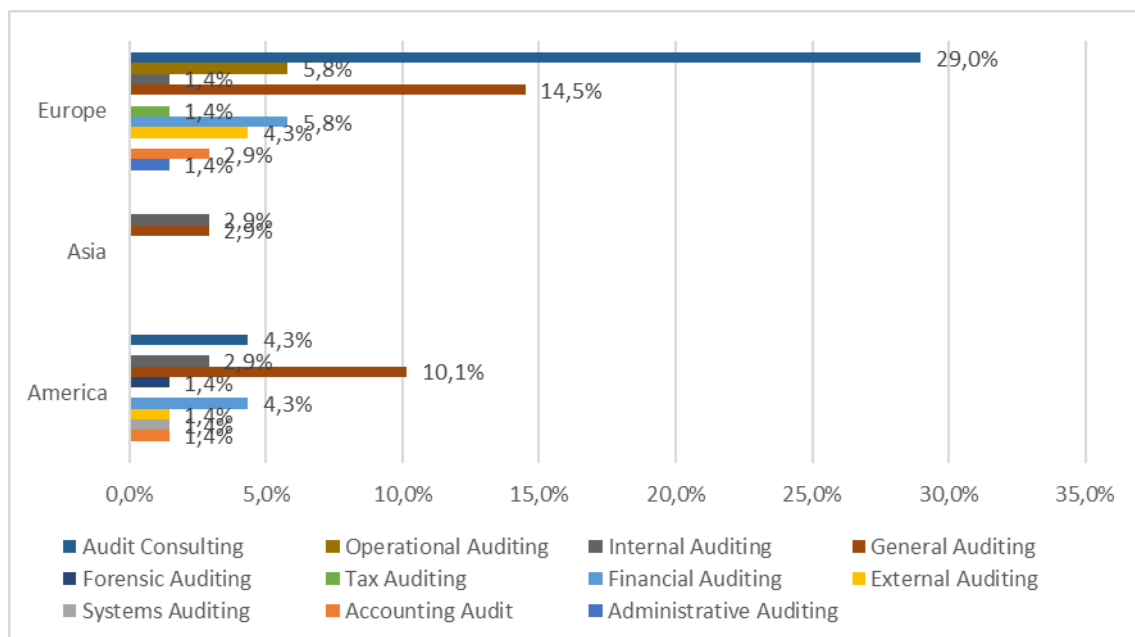


Figure 7 Focus analysis by continent

In 2014 and 2015 only the financial audit, general audit, and audit consulting approaches were applied. In 2016, the only approach applied was that of audit consulting. In 2017, in addition to the approaches, the external audit is applied. 2018 is the year in which a greater number of approaches are applied: management audit, accounting audit, external audit, financial audit, internal audit, audit consulting and general audit. For 2019, scientific production decreases, but the approaches appear: tax and systems auditing.

When analyzing the methodology used in the articles, it is observed that the explanatory analysis is the most used, with 47% of the total.

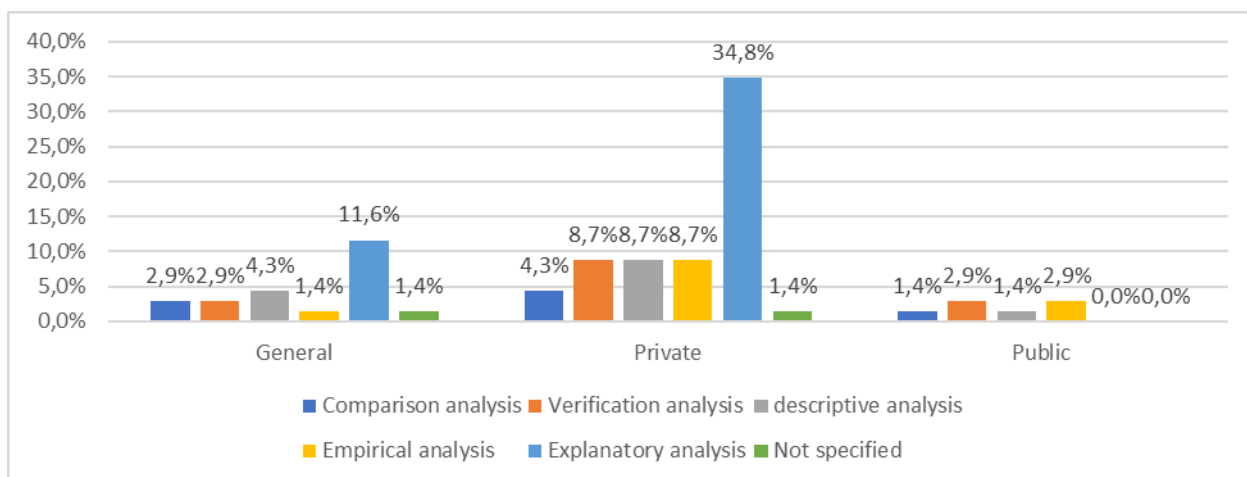


Figure 8 Methodology analysis by type of company

Discussion and conclusion

After reviewing the information of a sample of articles from the Scopus database, referring to the Audit, it is observed that since 2016 the production growth curve was increased until 2018, in 2019 it suffers a great decrease. This phenomenon can be attributed to several factors, among the most relevant we can mention the difficulty to delimit the investigation in the Accounting and Auditing area, the demotivation of the authors due to the rejections suffered within the medium, and the lack of incentives to this type of research, the time devoted to teaching and the lack of methodological training that this science has. (16).

Most of the articles developed in this area were published during 2018, with English being the most widely used for the publication of these articles. It is also determined that the European continent is the one that generates the greatest scientific production, with Spain being the city that generates the greatest collaboration worldwide, which is directly proportional to the number of authors who have participated in the studies.

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