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Transfer Pricing and Related Party Transactions: A Bibliometric Analysis

Abstract

In order to create complex business structures and to obtain economic benefits, multinational companies have given rise to transfer pricing. Due to their importance, it has been possible to expand international trade to a higher level. This study focuses on the issue of transfer pricing and related party transactions (RPT), with the aim to overview the productivity and impact of research in transfer pricing and RPT area highlighting the main research trends in the field. 3885 papers extracted in February 2022 from Web of Science and Scopus databases were examined and basic topics debated in research between 1968 and 2021 were identified. The search words used are transfer pricing and RPT. Based on results obtained, the level of development and the main tendencies in terms of impact, core publications, topics, authors, institutions and countries were identified. The analysis of the conceptual structure of keywords via VOSviewer allowed us to obtain their graphic visualisation and to categorise them through their degree of interaction in eight research directions: transfer pricing taxation, accounting, theoretic and economic context, sustainability, innovation and ethics of transfer pricing, RPT disclosure, firm performance, RPT and earnings management, and the fraudulent use of transfer pricing and RPT. The results of bibliometric analysis are helpful to identify the most suitable journals for publication, potential collaborators, and areas for research regarding transfer pricing and RPT issues.

Keywords

international tax system | corporate governance | arm`s length principle | RPT | TP

JEL Codes G38, K34, M41

1. Introduction

It is well known that global competition has the potential to change the way goods are produced and distributed. That is why various value-added activities of multinationals (MNEs) are scattered across countries and coordinated in order to gain competitive advantage. In order to benefit, however, it is necessary that the value-creating activities be carried out in jurisdictions that offer unique comparative advantages. That is, a good manager must identify and control the factors that influence the group performance in each of the three main stages of the value creation process, namely: supply, production, and distribution (Prasad & Sounderpandian, 2003). In order to gain a competitive edge through the global value chain, MNEs must provide the highest quality products (De Meyer, Nakane & Miller, 1989; Fawcett, Birou & Taylor, 1993) while offering the product at lower costs (Goonatilake, 1990), and in the shortest time (Haug, 1985; Fawcett & Birou, 1992), including after-sales services (Porter, 1986). To achieve the above-mentioned goals, to maintain supremacy over competitors and to make the highest possible profits, related parties have, as a result of the relationship between them, the ability to conduct transactions that the parties would not be able to complete independently. Hence, the importance of regulations in the field of financial accounting reporting, which have, among other things, the objective of ensuring that related-party financial statements are not distorted by their presence or transactions.

At the same time, prices between related parties, known as transfer pricing, and in particular their tax value, are of overwhelming and growing importance, both for MNEs and for tax administrations, as they impact the group tax outcome and implicitly the level of taxes. For tax purposes, in order for a transaction involving transfer pricing to be considered as reflecting a fair price, the application of the arm's

length principle is required. Thus, related parties, according to the arm's length principle, have to charge prices equivalent to those used in similar transactions and conditions between independent companies (OECD, 2022a). In practice, however, it's not easy to apply, because of product diversity, services traded, the rareness, and differences in the regulations of the countries involved (Pelekis, 2021).

Transfer pricing through related party transactions (RPT) is now widely used. From their inception to the present, government organizations, economists, managers, and researchers pay special attention to transfer pricing and RPT (Nguyen et al., 2020). Considerable effort has been made to normalize transfer pricing globally, and the Organization for Economic Cooperation and Development (OECD) has played a particularly important role in this regard. Although the legislative framework governing the use of transfer pricing was established many years ago, both the economy and international trade have developed rapidly and continuously, requiring transfer pricing rules to adapt to emerging conditions (Sikka, 2017). The literature refers to many situations in which tax authorities discover fraudulent schemes created by related parties in order to reduce the tax base especially when subsidiaries are located in tax havens (Barford & Holt, 2013; Duhigg & Kocieniewski, 2012; Osborne, 2011; Srnicek, 2017).

Transfer pricing as a part of RPT and as a tool for active evaluation of decentralized companies' units has been researched for more than 60 years, and therefore its content needs to be improved and updated (Coelho, 2000). With this in mind, this study aims to frame the productivity and impact of transfer pricing and RPT literature using a bibliographic portfolio of research conducted on these topics. The research methodology is based on a bibliometric analysis of the bibliographic profile in order to identify the most influential studies, authors, publications, articles, and keywords within the area of interest.

Transfer pricing and RPT are intensively debated, studied, and researched and are a reason why there is a need for a systematisation of the literature in this field. Although there is a large amount of research on transfer pricing and RPT, it is focused on specific directions, such as transfer pricing performance (Schafer et al., 2015), transaction cost economics (TCE) and resource-based firm valuation (Cecchini, Leitch & Strobel, ., 2013), the use of transfer pricing in creative accounting (Padhi, 2019), or analysed separately the research with focus on transfer pricing issue (Kumar et al., 2021) or RPT (El-Helaly, 2018; Maigoshi et al., 2016). Thus, one objective of this study is to outline the main research directions related to the transfer pricing concept and RPT, subjects intensively analysed since the middle of the twentieth century. This article is of interest because it considers both issues simultaneously-transfer pricing in respect to RPT.

For this bibliometric analysis, it was decided to collect data from two important archives: Web of Science Core Collection (WOS) and Scopus. Both databases are suitable as tools in scientometrics and bibliographic analysis (Archambault et al., 2006), as both have a high correlation (Sanchez, Del Rio & Garcia, 2017) and complete each other (Echchakoui, 2020). The final sample was composed of 1388 papers, published between 1968 and 2021. Following the analysis, the main research directions in the field were identified. Thus, the issue of transfer pricing presents the following areas: transfer pricing taxation, transfer pricing accounting, the economic context of transfer pricing, transfer pricing theories, fraudulent use of transfer pricing, and issues in which transfer pricing is related to sustainability, innovation, and ethics research. The disclosure of RPT is one subject of interest for many authors because of the impact of RPT on a company's performance. The authors also focus on use of RPT in earnings management and, as in case of transfer pricing, on fraudulent use of RPT.

The remainder of the paper is as follows: In the second section, a review of the literature is outlined to clarify the research subject. The third section develops the methodology, followed by the findings and discussions. Finally, the conclusions are presented, with the research limits and future proposals identified.

2. Literature Review

Transfer pricing, as an economic concept, is not a negative phenomenon and initially was not oriented for tax optimization (Petruzzi & Tavares, 2019). The introduction of transfer pricing was associated primarily with the need of inventory evaluation and secondly with the desire to determine the performance of separated parts of a business (McNally, 1973). A questionnaire conducted by Ernst & Young (2007) concluded that a large number of respondents (40%) consider transfer pricing to be the most important

topic in the field of taxation. Special topics in transfer pricing research are cost allocation (Cools, Emmanuel & Jorissen, 2008; Kogut & Kulatilaka, 1994; Lambert, 2001; Westland, 1992) and the use of transfer pricing for tax purposes (Matsui, 2011; de Matta & Miller, 2015; Miller & de Matta, 2008).

RPTs assume the transfer of resources, services, or obligations occur between affiliated companies or parties. RPTs have become a key topic in the context of many recent financial scandals (Marchini, Mazza & Medioli, 2018). Researchers have identified totally contradictory roles for RPTs in international trade. If some believe that they serve to create value for a company, then others have shown that the purposes for which they are used are instead aimed at reporting low profits for tax purposes. Some research results show that RPTs are not earnings management tools (Alhadab, Abdullatif & Mansour, 2020; Nasution & Mita, 2017) and highlight their positive influence contributing to value creation of a business (Jian & Wong, 2010; Maigoshi, Latif & Kamardin, 2018; Munir et al., 2013). Contrary to what has just been mentioned, some studies have provided pertinent arguments that RPTs have been used for shareholder expropriation (Du, He & Yuen, 2013) and are involved in earnings management activities (Haji-Abdullah & Wan-Hussin, 2015; Jian & Wong, 2010; Maigoshi, Latif & Kamardin, 2016; Marchini et al., 2018). Both Huang and Liu, (2010), and Su and Fung, (2013) concluded that there is a strong link between RPT and company performance. In order to mitigate the negative effects of transactions between related parties on performance, it is necessary to implement effective corporate governance (Black et al., 2015; Chen, 2014; Yeh, Shu & Su, 2012). One condition in the effectiveness of corporate governance policies is the independence of executive managers (Baixauli-Soler & Sanchez-Marin, 2015). When corporate governance is reduced or lacking, it leads to misuse of RPTs (Adachi, 2006) and has the adverse effect of alienating the capital of insignificant shareholders (Berkman, Cole & Fu, 2010). Companies that voluntarily disclose RPT data have relevant corporate governance policies and have a lower risk of earnings management use (Lo & Wong, 2011). Evidence also shows that the presence of an insignificant number of board government investors increases the firm performance (Wong, Kim & Lo, 2015). A beneficial effect in this regard is also followed in transactions such as related party loans and guarantees (Doong, Fung & Wu, 2011). However, some studies show that the value and volume of RPTs influence performance in a negative way as they increase (Chen Y., Chen C.H. & Chen W., 2009; Firth, Wang & Wong, 2014).

3. Research Methodology

Bibliometrics as a quantitative research method is based on bibliographic data evaluation. It has been extended to all areas (Bar-Ilan, 2008; Farrukh et al., 2020) and consists of quantitative research and researchers' assessments, providing an overview of trends in various research fields (Muhuri, Shukla & Abraham, 2019). Among the tools used in bibliometrics are the following: counting, sorting, grouping, classification, ranking data, researchers, publications, research institutions (etc.), analysis of citations, research topics, research results obtained, impact indicators calculation, and so forth. Bibliometrics is the right method for exploring, organizing, and analysing large volumes of information (Daim et al., 2006). This allowed the discovery of the past, understanding of the present, and outlining of the perspectives for future research (Albort-Morant et al., 2017; Cadavid-Higuita, Awad & Franco-Cardona, 2012). To analyse the existing literature in the field a mapping method was used involving bibliographic data analysis according to a corpus of research documents (Gonzalez-Torres et al., 2020).

3.1. Data pre-processing

The selection process took place on February 21, 2022, and involved the following steps: identification of studies, screening, and finally their inclusion in the sample (Page et al., 2021). Data was collected by one person. Figure 1 presents the full selection process step by step. Based on the terms transfer pric* and related part* transaction*, TP, and RPT, 1186 scientific papers from Scopus and 846 from WOS Core Collection published between 1968 and 2021 were identified. A total of 2032 studies were extracted. The use of asterisks in case of pric*, part*, and transaction* was enabled to identify the possible endings of these words in research (price, pricing, parts, party, transaction, transactions, etc.). The use of abbreviations such as TP (transfer pricing) and RPT (related party transactions) is also common for research literature in this field. In the next stage, only scientific articles and conference papers were taken into account from the multitude of existing types of documents, as they are

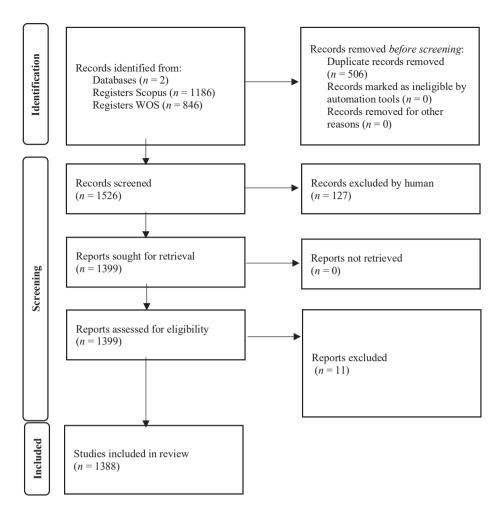


Figure 1. Identification of studies through databases and registers (Source: processed by author via Page et al., 2021)

considered to make a special contribution to research. It was decided that the sample of works be limited to those published in English from categories related to the Scopus archive: Business, Management and Accounting, Economics, Econometrics and Finance, Social Sciences, and Multidisciplinary. For WOS, the following categories were considered: Business Finance, Economics, Management, Business, Social Sciences Interdisciplinary, Multidisciplinary Sciences. Relevant search fields were document title, abstract, and keywords. With the help of Zotero software, 506 duplicates were removed. All items not related to transfer pricing and RPT subjects were excluded. Thus, the final sample chosen was composed of 1388 studies: 1201 scientific articles and 187 papers presented at conferences. Data was downloaded in RIS format, suitable for processing in VOSviewer Software.

3.2. Methodology

For this bibliometric study, three types of indicators were used: quantity, performance, and structural indicators (Durieux & Gevenois, 2010). According to quantity indicators that measure researchers' productivity, the following methods were applied: the number of articles published by an author, number of works distributed according to the author's country of origin, number of keywords identified. Performance indicators used were the following: number of articles published every year, top most productive authors, top-ranked journals with the highest number of records, citations per year, most cited articles, journal impact factor. The level of association of keywords was also chosen as a structural parameter for bibliometric analysis.

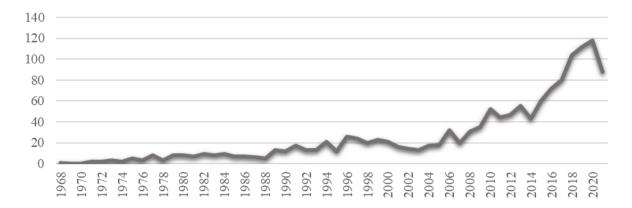


Figure 2. Evolution of articles published per year (Source: developed by author)

4. Findings

4.1. Paper count per year

The evolution of studies published per year is shown in Figure 2. The sample includes a time horizon of 53 years. The papers were published between 1968 and 2021. The evolution over time shows an increasing trend in number of publications per year, which rises significantly from one year to another. In 1968, the first work was published by Wells, 'Profit Centres, Transfer Prices and Mysticism'. In this paper, the author states that no situation can be justified in which transfer pricing is useful or meaningful. In research literature this assertion is known as 'Wells' statement'.

If by 2007 there were up to 20 publications each year, then since 2008 considerably more have been published, the values having doubled in 2010 through 2014, and even tripled in 2015. In 2018, the number of publications exceeded 100 articles. We noticed a maximum number in 2020-118 documents. The small number of works in the early years may be explained by the fact that very little of what was published at that time could be included in WOS or Scopus. We should mention that an increased number of publications does not necessarily mean an expansion of knowledge in the field (Bornmann & Mutz, 2015).

4.2. Citation report

Figure 3 shows a citation report for selected items. Thus, from 1974 to 2022, a total of 16,694 citations were quantified for 1,388 articles. The graph shows an upward trend in the number of citations, most of which were observed in 2021-1,987 citations. If until 1998, the number of citations did not exceed 100 per year, then since 2018 it has reached an order of thousands. The number of citations from 2016 to 2022 includes more than 52% of their total volume, which demonstrates the emergence of transfer pricing and RPT issues in the scientific community.

4.3. Influence of citations and sources

Table 1 lists journals with the highest number of published articles. In addition to the number of works, the number of citations and the journal impact factor were quantified. The reference year 2021 was considered to be the most recent year providing impact factor information. Data was retrieved from www. scimagojr.com. For the most productive 20 journals, a 2.76 average impact factor was calculated, which confirms the high research quality of the articles considered. These journals contain about 48.29% of the total number of citations. The most popular magazine in the top 20 is Intertax with a total of 27 papers, but with an insignificant number of citations of only 14, a relatively low impact factor (0.32). Articles published in this journal fall within a rather short time horizon (2018–2021), which may explain the low number of citations. Second place belongs to Accounting Review (22 research works), a journal with a 3.88 impact factor and a considerably higher number of citations (1,148).

In the next position, Contemporary Accounting Research has 17 published documents and 310 citations, resulting in a 3.37 impact factor. The highest impact factor in the top 20 list was the International Journal of Production Economics (8.31). The most citations belong

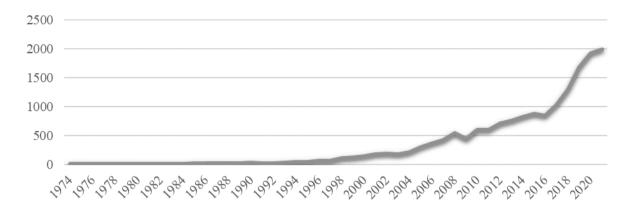


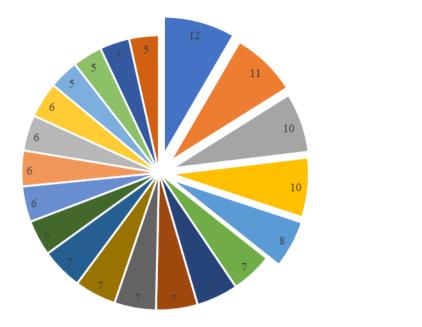
Figure 3. Number of citations per year (Source: developed by author)

Table 1. Top 20 most productive journals

No.	Source	Documents	Citations no.	Impact factor
1.	Intertax	27	14	0,32
2.	Accounting Review	22	1148	3,88
3.	Contemporary Accounting Research	17	310	3,37
4.	Review of Accounting Studies	17	672	3,42
5.	Journal of Taxation	17	9	0,07
6.	European Journal of Operational Research	16	518	6,02
7.	International Tax and Public Finance	15	256	1,43
8.	International Journal of Accounting	15	234	1,90
9.	International Tax and Public Finance	15	256	1,31
10.	Management Science	14	1533	5,04
11.	Journal of Public Economics	14	909	2,97
12.	International Journal of Production Economics	13	623	8,31
13.	Management Accounting Research	13	234	2,49
14.	Accounting Organizations and Society	13	446	3,85
15.	National Tax Journal	13	404	1,19
16.	International Corporate Law and Financial Market Regulation	12	32	0,43
17.	Journal of International Accounting Auditing and Taxation	11	105	2,47
18.	Corporate Ownership and Control	11	10	0,60
19.	Pacific Basin Finance Journal	11	270	2,71
20.	Sustainability Switzerland	10	79	3,48
Total		296	8062	-
Avera	ge	-	-	2,76

Table 2. Top 20 most productive articles

No.	Document title	Author(s)	Journal	Citations no.
1.	Operating flexibility, global manufacturing, and the option value of a multinational network (1994)	Cogut, B., Kulatilaka, N.	Management Science	580
2.	Performance-measure congruity and diversity in multitask principal-agent relations (1994)	Feltham, G.A, Xie, J.	Accounting Review	450
3.	Contracting theory and accounting (2001)	Lambert, R.A.	Journal of Accounting and Economics	443
4.	Propping through related party transactions (2010)	Jian, M., Wong, T.J.	Review of Accounting Studies	343
5.	Do countries compete over corporate tax rates? (2008)	Devereux, P., Lockwood, B., Redoano, M.	Journal of Public Economics	320
6.	Decentralized multi-echelon supply chains: incentives and information (1999)	Lee, H., Whang, S.	Management Science	316
7.	Taxes, tariffs and transfer pricing in multinational corporate-decision making (1991)	Grubert, H,Mutti, J.	Review of Economics and Statistics	309
8.	Lessons from behavioural responses to international taxation (1999)	Hines Jr., J.R.	National Tax Journal	278
9.	Tax-motivated transfer pricing and US intrafirm trade prices (2003)	Clausing, K.A.	Journal of Public Economics	213
10.	Designing the boundaries of the firm: From "make, buy, or ally" to the dynamic benefits of vertical architecture (2006)	Jacobides, M.G., Billinger, S.	Organization Science	208
11.	Coordinating investment, production, and subcontracting (1999)	Van Mieghem, A.,	Management Science	196
12.	A global supply chain model with transfer pricing and transportation cost allocation (2001)	Vidal, C.J., Goetschalckx, M.	European Journal of Operational Research	186
13.	Why pay more? Corporate tax avoidance through transfer pricing in OECD countries (2003)	Bartelsman, E.J., Beetsma, M.W.J.	Journal of Public Economics	186
14.	Political connections and minority-shareholder protection: Evidence from securities-market regulation in China (2010)	Berkman, H., Cole, R.A., Fu, L.J.	Journal Of Financial and Quantitative Analysis	166
15.	Tunneling and propping up: An analysis of related party transactions by Chinese listed companies (2009)	Cheung, YL., Jing, L., Lu, T., Rau, P.R., Stouraitis, A.	Pacific Basin Finance Journal	161
16.	Tunneling as an incentive for earnings management during the IPO process in China (2010)	Aharony, J., Wang, J., Yuan, H.	Journal of Accounting and Public Policy	152
17.	Can corporate governance deter management from manipulating earnings? Evidence from related-party sales transactions in China (2010)	Lo, A.W.Y., Wong, R.M.K., Firth, M.	Journal of Corporate Finance	151
18.	The dark side of transfer pricing: Its role in tax avoidance and wealth retentiveness (2010)	Sikka, P., Willmott, H.	Critical Perspectives on Accounting	143
19.	Money laundering (2006)	Levi, M., Reuter, P.	Crime and Justice	142
20.	Transfer pricing and organizational form (1991)	Holmstrom, B., Tirole, J.	Journal of Law, Economics, and Organization	140



- Schielderup, G.
- Rahmat, M.M.
- Borkowski, S.C.
- Emmanuel, C.
- Wang, L.
- Yeh, Y.H.
- Lo, A.W.Y.
- Pfeiffer, T.
- Habib, A.
- Eden, L.
- Utama, S.
- Taylor, G.
- Richardson, G.
- Baldenius, T.
- Jiang, H.
- Cools, M.
- Devereux, M.P.
- Kim, W.
- Gresik, T.A.
- Torvik, O.

Figure 4. The top 20 most productive authors by number of articles published (Source: developed by author)

to Management Science—1,533, which represents 9.18% of their total number. This journal ranks 10th place with 14 published research works and has the third highest impact factor (5.04). The fewest articles (10 each) are published in the Sustainability journal (Switzerland), which has an impact factor of 3.48 and fewer than 100 citations. It is worthwhile to note that the number of published papers is not directly proportional to the number of citations and the impact factor of the journal, i.e., a high impact factor does not ensure a large number of citations.

Out of the total number of citations, 5,083 (30.45%) belong to the 20 most cited articles presented in Table 2. 'Operating flexibility, global manufacturing, and the option value of a multinational network' (1994), published by Cogut, B. and Kulatilaka, N., has the largest number of citations in this list (580 citations). The article presents a model to value the option of shifting production through different components of MNEs located in different jurisdictions.

Transfer pricing and performance evaluation rules have to change by means of cross-border coordination in order to achieve the expected goals. With 450 citations, 'Performance-measure congruity and diversity in multitask principal-agent relations' (1994) follows, by Feltham, G.A and Xie, J. In this paper, the authors discuss the use of transfer prices as a part of multiple performance measures that impact the goal congruence of a firm. 'Contracting theory and accounting' (2001), by Lambert, L.A. has 443 citations counted so far. Like the first two papers, this article discusses transfer pricing through agency theory. Company profitability is one of the transfer-pricing goals presented by the author. The study ranked fourth with 343 citations is called 'Propping through related party transactions' (Jian & Wong, 2010) and directly addresses the RPT issue and presents a scheme by which major investors are expropriating parts of capital by using loans through RPTs.

4.4. Most productive signers

In the following section, we present the signers' (authors') contributions to transfer pricing and RPT issues research. These topics were discussed by 2,355 authors. Of these, 2,338 authors (99.28%) have published only one work.

At the same time, only 317 (13.46%) of them are authors of at least two works. About 1.23% of authors (29 authors) have at least five published articles. This indicates a rather low concentration of authors in this research area. The most efficient 20 authors can be traced in Figure 4. They have published a total number of 143 research works, which represent 6.07% in the analysed sample. The first prominent author

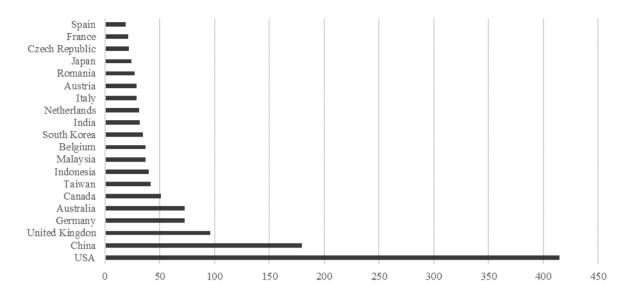


Figure 5. The top 20 most productive countries by number of articles published (Source: developed by author)

with 12 works is Schjelderup, G., followed by Rahmat, M.M., with a total of 11 published research articles. Borkowski, S.C., and Emmanuel, C., (10 publications) have the third place, followed by Wang, L. (8 works).

4.5. Country distribution

Figure 5 shows the internationalization of TP and RPT issues. The assignment to a country was made according to the first author's country of origin. The top 20 countries presented in Figure 4 cover 94.59% of our sample content or 1,313 research reports. The United States has published the largest number of papers (415). China ranks second with 180 articles. In third place are authors from the United Kingdom (96). Taken together these three countries have produced about 49.78% of the publications.

In this ranking 10 European countries are included, which cover 27.67% of the volume of published works, the United Kingdom being first, followed by Germany with 73 studies. Research shows that the number of papers published in a country depends on the degree of research funding (Rahman & Fukui, 2003). For example, according to OECD data on research funding, China, Korea, and Japan have the highest percentage of GDP allocated to research and development, the US ranks sixth, and United Kingdom is only in 11th place, being surpassed by Germany, Belgium, Austria, France, Netherlands, Slovenia, and the Czech Republic (OECD, 2022b).

4.6. Keyword analysis

'Keyword co-occurrence', or keyword analysis based on the number of repetitions and their correlation, was performed through VOSviewer (Van Eck & Waltman, 2010). The closer the keywords are to each other, the greater the correlation between them. Figure 5 presents a strategic diagram, constructed through keyword association. Of the 3.664 items, 281 are found at least five times in the analysed sample. The frequency of repetitions indicates the importance of each keyword. The more important the item, the more prominently it appears in the viewfinder, i.e., the larger the circle around it. This reflects the cognitive relationship between keywords.

The most important term appears to be 'transfer pricing'. It is listed as appearing in 448 articles, correlates with 417 other keywords in the network, and has a total link strength of 1.377. Second place is held by the 'corporate governance' item (167 repetitions, corresponding to 193 keywords, correlation degree 890). The keyword 'related party transactions' is also found in high numbers-157 repetitions. This element is linked to 204 other keywords, with a correlation degree of 596. Term 'ownership' appears 82 times in the keyword list, ranking fourth in the keyword importance hierarchy. This keyword has 137 links, with a strength of 480. The next keyword in importance is performance, recorded 80 times and correlated with 147 other keywords, with a total link strength of 483.

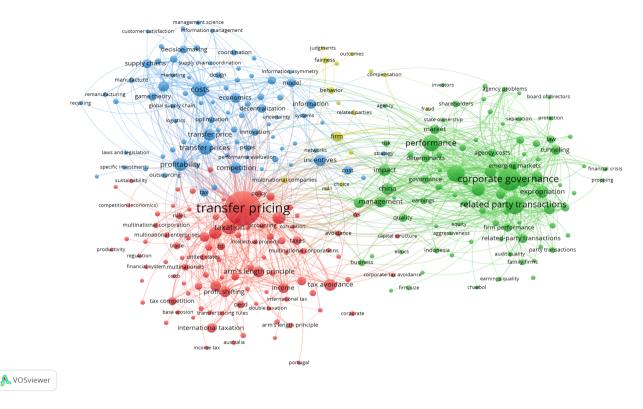


Figure 6. Visualization map (Source: developed by author in VOSviewer)

Table 3. Keywords grouped by clusters

Cluster	Items no.	Items and occurrence number
1. Red	97	transfer pricing (352), taxation (65), investment (47), multinational enterprise (45), tax avoidance (40);
2. Green	88	corporate governance (147), related party transactions (101), ownership (82), performance (80), earnings management (48);
3. Blue	81	transfer price (96), costs (65), profitability (50), incentives (38), competition (38);
4. Yellow	15	firm (30), behaviour (14), fairness (12), multinational company (11), related parties (8).

Keywords were grouped in VOSviewer in four thematic clusters. These are highlighted in different colors in Figure 6. A breakdown of clusters, as well as the five most commonly used items for each cluster can be found in Table 3. Each cluster indicates that a keyword belongs to a common topic, theme, or domain (Ding, Chowdhury & Goo, 2001). For example, the first cluster coloured in red refers to the transfer pricing topic. Most of empirical studies analyse this subject from an international trade point of view (tax system, tax avoidance, arm's length principle). The green cluster represents the group of studies focusing on corporate governance, firm value, and earnings management, with companies from China being

of greatest interest. The yellow cluster reveals the connection between RPTs and MNEs, RPT behaviour, fairness, and trust, outcomes achieved through RPT, conflicts, and fraud.

Because transfer pricing and related party transactions are items of particular research interest for this study, the correlation analysis with other elements was performed along with them. Thus, transfer pricing is associated mainly with the following keywords: related party transactions, performance, earnings management, profit shifting, tax system, tax competition, arm's length principle, costs, profitability, supply chains, management, impact, decentralization, information, and game theory. Analysing the link

Table 4. Research directions in the TP and RPT literature

Research subjects	Keywords				
Related party transactions					
RPT disclosure	audit quality, audit fees, disclosure, information management, fairness;				
Effect on firm performance	firm performance, firm size, firm value, leverage, valuation, value creation, value relevance, China, performance, management, transaction cost; performance measurement, performance evaluation, judgement;				
Role in corporate governance	Governance, corporate governance, ownership structure, state ownership, family ownership, controlling shareholders, ownership concentration, board of directors, social responsibility, family firms, independent directors, management, management control, political connections, business groups, China, corporate strategy, corporate governance, emerging markets, emerging economies, Indonesia, internal capital-markets, law, law and legislation;				
Earnings management	Earnings, earnings management, earnings quality, outcomes, profit shifting, income shifting;				
Fraudulent use of RPT	expropriation, tunnelling, propping, China, fraud, compensation.				
Transfer pricing					
Tax oriented transfer pricing	transfer law, arm's length principle, base erosion, BEPS, CCCTB, corporate taxation, debt, double taxation FDI, foreign direct investment, formula apportionment, income, income tax, international taxation, international tax, OECD, pricing policy, regulation, tax burden, tax compliance, tax planning, tax policy, tax system, transfer pricing rules, corporate strategy, international trade, intrafirm trade, laws and legislation, finance, financial system, financial crisis;				
Transfer pricing accounting	cost, transaction cost, accounting standards, cost accounting, cost allocation, resource allocation, IFRS, management accounting, price, price determination, price dynamics, transfer pricing methods, inventory control;				
Economic transfer pricing	emerging markets, emerging economies, internal capital-markets, transaction cost, developing countries, economic policy, European union, globalization, industrial performance, industrial management, multinationals, oligopoly, price determination, trade, intrafirm trade, international trade, coordination, decision making, design, efficiency, global supply chain, innovation, investments, logistic, manufacture, marketing, optimization, performance measurement, pricing, profitability, resource allocation, competition, price dynamics, vertical integration, decentralization, negotiation;				
Transfer pricing theories	er pricing theories agency costs, agency problems, agency theory, competition, game theory, information asymmetry, information management, moral hazard, Nash equilibrium;				
Fraudulent use of transfer pricing	base erosion, earnings, income shifting, intangibles, profit shifting, tax avoidance, tax havens, outsourcing, tax evasion;				
Other	ethics, innovation, sustainability.				

related to the term 'related party transactions, the following elements were highlighted: transfer pricing, corporate governance, ownership, performance, firm performance, tunnelling, earnings management, profitability, competition, costs, expropriation, agency costs, information, audit quality, and earnings quality.

5. Discussion

The analysis of the conceptual structure of keywords via VOSviewer allowed us to obtain their graphic visualisation and to categorise them through their degree of interaction in eight research directions distinguished in Table 4 (Giraldo et al., 2019):

6. Conclusions

Because transfer pricing and RPT issues are emerging topics in research literature, this study sought to highlight the productivity and impact of transfer pricing and RPT literature in emerging research. Reasonable answers to research question proposed for discussion were found. The bibliometric analysis consisted of the evolution of publications, citations, presentation of authors with the most publications, identification of journals with the highest number of records, number of papers distributed according to the country of origin of the first author, number of repetitions, and keyword correlation. Most papers were published in 2020. The sample of articles recorded 16,694 citations, and more than 52% of their number includes the period 2016-2022. This confirms that the transfer pricing problem and RPT became popular in present research. The most cited paper (580 citations) entitled 'Operating flexibility, global manufacturing, and the option value of a multinational network' (1994), by Cogut, B., and Kulatilaka, N., addresses the subject of transfer pricing through shifting production into a multinational network. From 2,355 authors identified, Schjelderup, G., Rahmat, M.M., and Borkowski, S.C., were nominated as the three most productive authors. The journal Intertax has the highest number of publications (26 articles), with the second lowest impact factor (0.32), and the third lowest number of citations. The USA, China, and the UK are first three countries with the highest number of publications. The most frequently used keywords are: transfer pricing, related party transactions, corporate governance, multinational enterprise, costs, and profitability. Researchers interested in studying these topics internationally should conduct a search using the same keywords in order to find relevant articles in the field.

The analysis of keywords, as well as their division into clusters revealed a number of elements that helped to outline the main research directions. The research addresses transfer pricing from the following perspectives: transfer pricing taxation theories within which are transfer pricing theories, the fraudulent use of transfer pricing, as well as topics where transfer pricing has tangencies with sustainability, innovation, and ethics. In connection with related party transactions, studies focused on RPT disclosure, RPT performance, RPT earnings management, and the fraudulent use of RPT were revealed.

The results presented are limited to a set of articles that meet the selection criteria and databases used. Many authors who made an impactful academic contribution to research and who do not appear in these databases were not taken into account, although the research results would be relevant for bibliometric analysis and would outline a complete overview of issues studied. Secondly, in this research the differences

between journals' impact factors as an indicator of the quality of the research is obvious. Thus, one can distinguish journals that have published a lot and have relatively large citations, but an insignificant impact factor and at the same time journals with few articles, but a high impact factor. Another limitation is that only one author has contributed to this bibliometric analysis, so that it could reflect only a point of view in data processing, results and conclusions. This research study may be helpful in identifying the most suitable journals for publication, potential collaborators, and areas for research and also to understand the research on transfer pricing and RPT, its current stage and future directions perspectives.

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