



Internal Transfer Pricing Methods: A Systematic Review (2013–2023)

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ABSTRACT:

Throughout their development, businesses not only produce products for the external market but also cater to the consumption needs of different internal departments. Transfer pricing helps measure the performance of these departments (profit centers) when they exchange goods and services within the company. The aim of this study is to organize previous research on internal transfer pricing within enterprises, compile statistics and evaluations by authors, and identify the most influential studies in the field of internal transfer pricing methods in businesses. Research data was collected and analyzed from Google Scholar using VOS viewer software version 1.6.19, with 500 articles filtered by abstracts for the keyword "internal transfer pricing." The findings reveal that internal transfer pricing has remained a topic of keen interest among researchers over the past decade. The study also highlights the most influential authors based on the number of publications and citations. The results have contributed to a comprehensive synthesis of research materials on internal transfer pricing.

Keywords: internal transfer price, Vios viewer

1. Introduction

Guiding et al (2005) note that to cope with the increasingly competitive pressure, many corporations that were once thought to operate in a stable business environment are now changing their organizational and business approaches. This shift is essential for businesses to adapt quickly in a world where technology, customer preferences, and competitors' strategies are constantly evolving. As they develop, businesses not only produce products for the external market but also cater to the consumption needs of different internal divisions. Due to the need for organized production across various departments, companies tend to break down activities into more specialized units. Due to the increased internal transactions brought about by this specialization in multi-divisional firms, a transfer pricing system is necessary to control business between divisions. Consequently, with the need to control costs within departments and the requirement to evaluate their performance outcomes, divisions are compelled to establish internal transfer prices. These prices help measure the performance of profit centers (divisions) when they transfer goods and services within the company.

Kumar, S., Pandey, N., Lim, W. M., Chatterjee, A. N., & Pandey, N. (2021) have researched What do we know about transfer pricing? Insights from bibliometric analysis. Transfer pricing is important to many business conglomerates and multinational enterprises. In this review, they pursued a stocktake of transfer pricing research through a bibliometric analysis. Using bibliometric data from 735 research articles from the Scopus database, this review sheds light on the leading authors, countries, institutions, outlets, articles, and themes of transfer pricing research over 50 years (1968–2019). The findings of this review suggest that there is a need for transfer pricing research to go beyond compliance and tax management and toward a more meaningful exercise of using transfer pricing as a strategic tool in business. Future research directions for transfer pricing conclude this review.

Zinn, T., & Riedel, N. (2014) have researched the increasing importance of transfer pricing regulations: a worldwide overview. Intercompany transactions generally offer the opportunity to shift income from one jurisdiction to another, which may be a valuable instrument for multinationals to reduce their overall tax burden. At the same time, profit shifting imposes risk on governments as it may reduce tax revenues. More and more governments are, therefore, introducing and extending transfer pricing regulations in order to combat profit shifting through intercompany transactions. This study examines forty-four countries and analyzes the development of different aspects of transfer pricing regulations over a time period of nine years (2001–2009). In order to show the differences between the regulations in a single measure, an attempt is made to categorize transfer pricing regulations regarding their stringency and impact. The results of the categorization confirm not only the increasing importance of transfer pricing regulations but also offer very useful and valuable information for future research.

Igor Vaysman's 1996 study on internal transfer pricing methods in UK companies concluded that cost-based transfer pricing is the most utilized when optimal profit levels are calculated. Transfer prices are determined based on the production department's cost reports. The findings also suggest that a compensation management system using cost-based transfer pricing enables companies to achieve higher anticipated profits than if top management made all decisions in cases where department managers are unable to share their unit's information with senior management due to the complexity of the business environment.

Nick W. McGaughey (1997) conducted a study on transfer pricing methods in the selected industries of electronics and chemicals among companies in the US with both domestic and international operations. This research highlighted that previous studies were lacking due to the absence of small companies and a comparative analysis between industries. The study aimed to address these gaps. Transfer pricing methods were categorized into two groups: cost-based methods and non-cost-based methods. The non-cost-based group included market price-based transfer pricing and methods that primarily do not rely on cost data for products and services being transferred. Survey responses were collected from 133 chemical companies and 74 electronics firms. The most common transfer pricing methods used by chemical companies were market price-based transfer pricing and cost-based pricing. Electronics companies most frequently use market price, market price minus selling costs, and full production cost-based pricing. About 56% of chemical companies employed cost-based methods, while around 46% of electronics companies used this approach for pricing.

So, this study lets readers grasp the development and quality of information on internal transfer pricing methods by looking at keyword usage frequency, citation counts, and how often authors are cited over time. It also helps future researchers keep up with the trends in this topic as time goes on.

2. Theoretical foundation

The concept of internal transfer pricing

Eccles, R.G. (1985) defines transfer pricing as the price applied to goods, services, and assets that are exchanged internally within companies as they move from one organizational entity (such as a department or unit) to another within the enterprise. Therefore, while the role of the external sale price is to efficiently allocate resources in the market, the role of transfer pricing is to effectively allocate resources within the company.

Vaysam Igor in 1996, in decentralized organizations, goods and services are transferred between departments. When a product made by one company division is passed on to another, these transactions are typically recorded in the accounting books of the involved departments; the producing departments record an internal revenue, while the purchasing departments note an internal cost. The transfer price mentioned refers to the amount of these internal transactions. This internal transfer price affects management decisions since managers are evaluated based on their unit's accounting income.

Hornngren and Foster (2012), the price set for a product or service provided by one department to another within the same organization is known as a transfer price. The pricing of goods or services between departments within the same organization and country is referred to as domestic transfer pricing.

So, from my perspective, the author believes that the transfer price of a product is essentially the price charged for a product produced by one department and transferred to another within the same organization. Transfer pricing impacts the selling department's revenue and the purchasing department's costs.

Internal transfer pricing methods

Companies typically choose one of three methods for setting internal transfer pricing: negotiated prices, market-based adjustments, or cost-based pricing. These methods differ in the autonomy they grant to departments. A negotiated price is established through internal bidding or direct negotiations between the selling and buying units, involving little to no oversight from higher management. This transfer only occurs when both parties agree on an acceptable price, often referred to as the "internal market price." Internal market pricing is usually employed when external reference prices are unavailable or when a company's strategy requires flexibility among departments. Market-based adjustments are set close to external market prices, thus reducing the managerial autonomy of departments in setting transfer prices. For instance, a market-adjusted price might be determined by taking the external market price and applying a specific discount, the best external price within a certain timeframe, or a negotiated rate with a listed price. Cost-based pricing is established based on the supplier's costs. This method allows the selling department to add a fee on top of costs to cover indirect expenses and generate a marginal profit. In this research topic, the author focuses on cost-based internal transfer pricing because it's quite common in manufacturing enterprises since it can be easily implemented with readily available figures from accounting books.

3. Research Methodology

The author has compiled an overview of previously published materials related to the internal transfer pricing method from data sources on Google Scholar. These reviews aim to highlight the urgency of the research and identify gaps in existing studies.

The author utilized VOSviewer 1.6.19 software to filter data using the keyword "internal transfer pricing method" found in the abstracts from the Google Scholar database, accessed on October 30, 2023. The search yielded 409 relevant articles from a shortlist of 500 entries. The collected data will be used for analysis and to address the following research questions:

Q1: A study on the methods of internal transfer pricing from 2013 to the end of October 2023.

Q2: The most influential authors based on the number of articles and citations in publications about internal transfer pricing methods in businesses.

Q3: What themes are the keywords grouped into?

4. Results

Statistics in publications about internal transfer pricing methods.

From 2013 to 2023, the author group searched for a maximum of 500 articles and found 473 indexed in Google Scholar on internal transfer pricing methods. They excluded books and citations. On average, there were 47.3 articles published each year, highlighting that internal transfer pricing methods continue to be a hot topic among researchers.

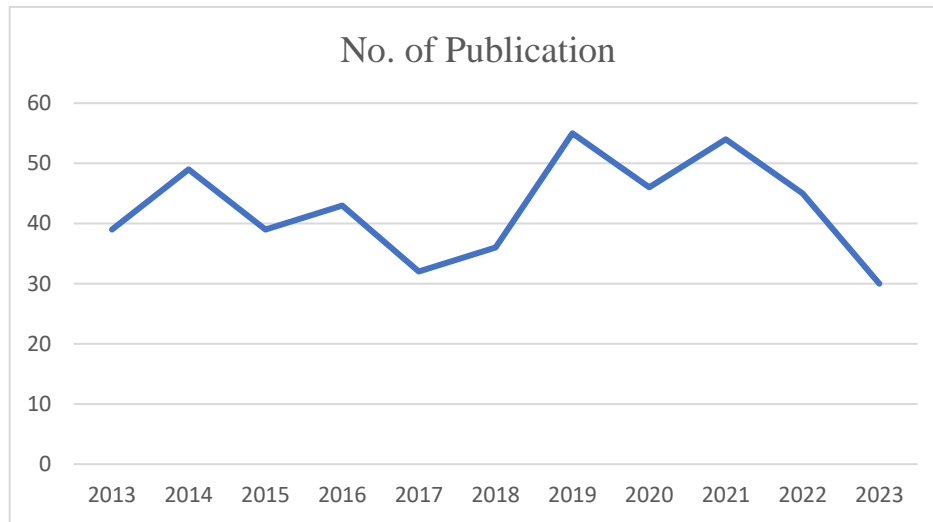


Figure 1. Chart showing the number of studies over the years

Statistics on the most influential authors in research on internal transfer pricing methods

To identify the most influential authors in research on internal transfer pricing methods, we considered the number of citations of their papers (Table 1), the authors' publication count (Table 2, Figure 2), and the total citations received by the authors (Table 3).

Highest citation, according to the document.

Table 1 reveals that the article by RB Davies, J. Martin, and M. Parenti (2018) titled "Knocking on Tax Haven's Door: Multinational Firms and Transfer Pricing" leads with the highest number of citations at 388, followed by AD Cristea and DX Nguyen (2016) with their work "Transfer Pricing by Multinational Firms: New Evidence from Foreign Firm Ownerships," garnering 293 citations. KJ Klassen and P Lisowsky (2017), in their study "Transfer Pricing: Strategies, Practices, and Tax Minimization," received 240 citations. The rest of the articles have all been cited over 100 times each.

Table 1. Frequency of the highest citation by documents

Documents	Cites
RB Davies, J Martin, M Parenti... (2018)	388
AD Cristea, DX Nguyen (2016)	293
KJ Klassen, P Lisowsky...(2017)	240
T Refgia, V Ratnawati, R Rusli (2017)	225
S Beer, J Loeprick (2015)	218
G Richardson, G Taylor, R Lanis (2013)	194
T Lohse, N Riedel (2013)	185
M Amidu, W Coffie, P Acquah (2019)	179
S Kumar, N Pandey, WM Lim, AN Chatterjee...(2021)	160
G Saraswati, IK Sujana (2017)	157
G Taylor, G Richardson, R Lanis (2015)	128
CP Rossing (2013)	120
T Zimm, N Riedel (2014)	107
TD Falbo, A Firmansyah (2018)	101

(Source: Authors compiled from VOSviewer software)

The highest documents by authors

Table 2. Frequency of the highest documents by authors

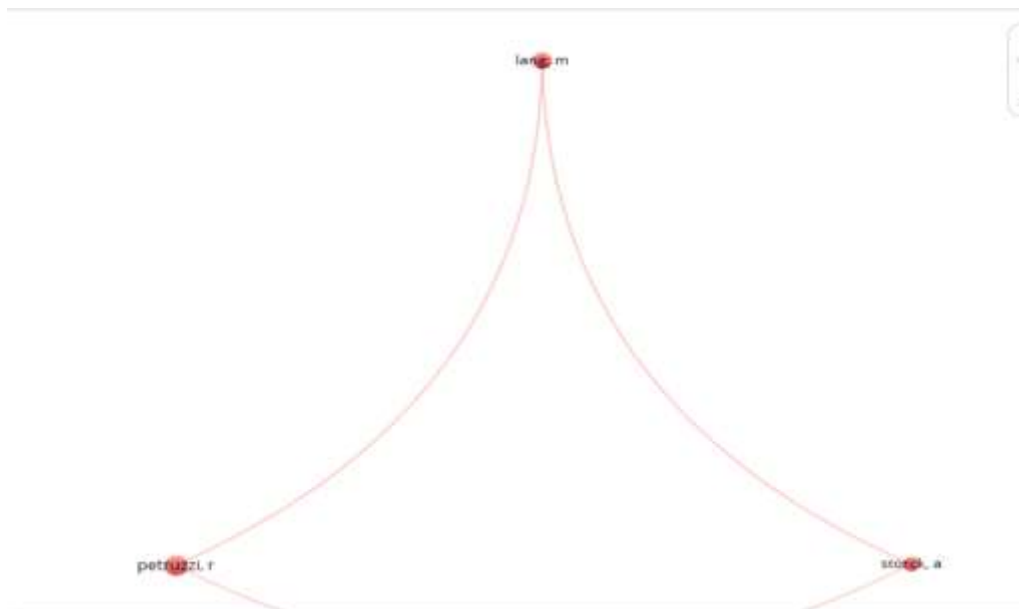
Selected	Author	Documents
<input checked="" type="checkbox"/>	lang, m	5
<input checked="" type="checkbox"/>	petruzzi, r	7
<input checked="" type="checkbox"/>	storck, a	4
<input checked="" type="checkbox"/>	firmansyah, a	4
<input checked="" type="checkbox"/>	irawan, f	4
<input checked="" type="checkbox"/>	clempner, jb	5
<input checked="" type="checkbox"/>	eden, l	5
<input checked="" type="checkbox"/>	liu, l	4
<input checked="" type="checkbox"/>	mashiri, e	5
<input checked="" type="checkbox"/>	okoshi, h	4
<input checked="" type="checkbox"/>	riedel, n	4
<input checked="" type="checkbox"/>	suryarini, t	5

(Source: Authors compiled from VOSviewer software)

Petruzzi,R, tops the chart with 7 articles on internal transfer pricing methods, followed by Lang,M; Clempner,JB; Eden,L; Mashiri,E; and Suryarini,T, each with 5 articles, while the rest of the authors have contributed 4 pieces each.

Co-author analysis

To understand the collaboration trends in research on transfer pricing methods, this study analyzed the co-authorship relationships among individual authors. According to Benoit and colleagues (2018), the analysis results enhance our understanding of research collaboration and help identify influential researchers. Figure 1 presents a map of the co-authorship network. The link between two nodes represents a collaborative relationship between two authors, and the thickness of the link symbolizes the intensity of cooperation. The most closely knit group of authors is depicted in the figure below, representing a team that has consistently published numerous articles over several years.



(Source: Authors compiled from VOSviewer software)

The highest citation by authors

We've identified the top 10 most-cited authors (see Table 3). S Kumar, N Pandey, WM Lim, AN Chatterjee... lead the pack with 80 citations this year, followed closely by RB Davies, J Martin, M Parenti... with 77 citations, and J Monsenego with 54. The remaining authors each have over 20 citations.

Table 3. Frequency of the highest citations by authors

Authors	CitesPerYear
S Kumar, N Pandey, WM Lim, AN Chatterjee...	80
RB Davies, J Martin, M Parenti...	77.6
J Monsenego	54
M Amidu, W Coffie, P Acquah	44.75
AD Cristea, DX Nguyen	41.86
KJ Klassen, P Lisowsky...	40
MF Utami, F Irawan	40
T Refgia, V Ratnawati, R Rusli	37.5
M Nadhifah, A Arif	34.67
R De Mooij, L Liu	30.67
S Beer, J Loeprick	27.25
G Saraswati, IK Sujana	26.17
N Wan, D Hong	24.75
TD Falbo, A Firmansyah	21.4
JP Choi, T Furusawa, J Ishikawa	21.33

(Source: Authors compiled from VOSviewer software)

Keyword analysis results.

In the keyword analysis section, we focus on selecting keywords that appear 20 times or more. The software evaluates these keywords based on their frequency and the overall strength of their connections. The results of the keyword analysis can be exported as an image file. Here's what the keyword analysis looks like:



Figure 4. Keyword Co-occurrence Networks

There are clusters of related keywords, each of which has its own distinctive color. Looking at the image, we can see the keywords divided into 4 groups. Group 1 is represented by red links, comprising 13 keywords including "transfer pricing," "international transfer pricing," "method," and others, with "transfer pricing" as the central keyword with 29 links and a total link strength of 1685, appearing 922 times. Group 2 is shown with green links, formed by 8 keywords like "effect," "incentive, transfer pricing decision," and so on, where "effect" is the central keyword with 25 links, a total link strength of 497, and appears 112 times. Group 3 is depicted with blue links and includes 5 keywords such as "transfer pricing regulation," "transfer," and "profit," among others, with "transfer pricing regulation" as the central keyword having 15 links and a total link strength of 106, appearing 41 times. Yellow links with 4 keywords, such as "transfer pricing aggressiveness," "determinant," "Indonesia," etc., indicate group 4. "Transfer pricing aggressiveness" is the central keyword, with 13 links and a total link strength of 84, appearing 25 times. With these four research directions and 30 common keywords, the results provide an overarching view of the issue of internal transfer pricing methods. Future studies could build on this foundation to select research directions that fill gaps or delve deeper into analysis.

4. Conclusion

In this study, we conducted a systematic evaluation of research on internal transfer pricing methods indexed in the Google Scholar database. These studies, published over the past 10 years, from 2013 to 2023, provide detailed information on publication volume, citation frequency of authors, citations of the studies, keyword networks, and more. The findings have contributed to the general theoretical foundation and serve as a reference for further

research into internal transfer pricing methods. Data collected from richer sources like Scopus and OpenAlex also hints at directions for more in-depth future research.

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