ISCTE Business School
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EMPIRICAL RESEARCH ON TAX HAVENS

YEARS 2008 TO 2018

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ABSTRACT

The main goal of this study is to analyze and characterize the empirical research produced in the time period between the years 2008 and 2018 on the subject of tax havens. As specific objectives, it is intended to analyze the characteristics of the researchers profile and the content of the published articles, using, to do so, the following variables: type of authorship, productivity and geographic affiliation (country and continent) of the authors, university and research centers contribution, journal and year of publication, most researched themes and most cited articles.

The results of the study show that collective authorship is predominant, being that articles with two authors are more frequent, and the majority of the researchers in the sample contributed with only one article. Geographically, the continent with the highest contribution was Europe and analyzing by country the United States of America held the highlighted role. Regarding the universities and research centers, Australian universities presented more affiliated authors. With regards to the content of the articles, the thirty six articles from the sample were published in twenty seven different journals, being that 2015 was the year with the most publications. Other than the topic tax havens, tax avoidance and tax evasion where the most addressed themes by the researchers.

Keywords: tax havens, tax avoidance, tax evasion; research

JEL classification: H26; F23; M41

RESUMO

A análise e caraterização da investigação empírica produzida entre os anos 2008 e 2018 no âmbito da temática *tax havens* são os principais objetivos deste estudo. Como objetivos específicos, pretende-se analisar as características inerentes ao perfil dos investigadores e do conteúdo dos artigos publicados, utilizando as seguintes variáveis: tipo de autoria, produtividade e afiliação geográfica (país e continente) dos autores, contribuição das universidades e centros de investigação, revista e ano de publicação, temáticas mais investigadas e artigos mais citados.

Os resultados deste estudo demonstram que a autoria coletiva é a predominante, sendo mais frequente os artigos com dois autores, tendo a maioria dos investigadores presentes na amostra participado com apenas um artigo. Geograficamente, o Continente com maior contribuição foi a Europa e analisando por país o maior destaque é detido pelos Estados Unidos da América. No que respeita ao contributo das universidades e centros de investigação, as universidades australianas apresentam mais autores afiliados. Relativamente à análise do conteúdo dos artigos constatou-se que, da amostra de trinta e seis artigos, estes foram publicados em vinte e sete revistas diferentes, sendo que o ano com maior número de publicações foi 2015. Além da temática *tax havens*, *tax avoidance* e *tax evasion* foram os temas mais abordados pelos investigadores.

Palavras-Chave: Paraísos Fiscais, elisão fiscal, evasão fiscal, investigação

Classificação JEL: H26; F23; M41

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LIST OF ABREVIATIONS

B-On - Online knowledge Library

BEPS – Base Erosion and Profit Shifting

CPIS - Coordinated Portfolio Investment Survey

CSR – Corporate Social Responsibility

EE – Emerging Economies

EU – European Union

FATF – Financial Action Task Force

FDI – Foreign Direct Investment

FSI – Financial Secrecy Index

IDEA - International Institute for Democracy and Electoral Assistance

IMF – International Monetary Fund

MCAA – Multilateral Convention on Mutual Administrative Assistance in Tax Matters

OECD – Organization for Economic Cooperation and Development

TIEA – Tax Information Exchange Agreements

USA – United States of America

1. INTRODUTION

1.1. Study goals

The main goal of this study is to analyze the empirical research produced about Tax Havens in the period between 2008 to 2018. The analysis will be conducted through scientific articles (excluding conferences) in order to identify the trends of the publications that have been made since the financial global crisis of 2008 till 2018 (a total of 10 years).

As a specific goal, it is intended to analyze a set of variables associated to the researchers in the selected sample, in particular: (i) type of authorship, (ii) nationality, (iii) most productive researchers' contributions and (iv) relation between authors. Also, as a specific goal, the variables related to the content of the published articles will be analyzed, namely: (i) journals and year of publication, (ii) keywords and (iii) most cited articles.

Overall, the study focuses in the analysis of the authors' profile, themes discussed and correlated, as well as the current main trends of the investigation made on tax havens matters.

1.2. Theme justification

The main form of research dissemination is done through scientific articles, noting that in the last few years a higher number of publications have been made available to the public, which has become essential for the development and disclosure of academic knowledge. The publication of research articles is important and prestigious not only for the authors, but also the associated universities, since they create value and contribute to the dissemination of knowledge. The efforts of scientific and academic research inside high education institutions and other research networks are, according to Lopes (2015), the fundamental activities to achieve a deep comprehension and knowledge sustainability.

With the beginning of the 2008 crisis and the disclosure of several financial scandals, the true dimension of tax haven utilization was revealed, initiating a fight against tax avoidance and evasion by the G20 through taking a closer look towards tax havens. Therefore, and taking into account the increasing amount of scientific articles published about tax havens, there is a need to analyze them and understand the investigation that has been made in this area, in order to contribute to the state of knowledge and identify trends in the publications made in the last few years. The present study is intended as a contribution to the academic community and as a scientific support for researchers in future investigations.

1.3. Methodology

The present investigation is a quantitative analysis, proceeding, in an initial stage, with the identification and selection of a group of scientific articles using the keyword: tax havens, published in the period between the years 2008 and 2018.

The analysis of the articles was made through the constructions of a database, considering the following variables regarding the researchers: affiliation institution, nationality, name and number of the authors. In regards to the content of the articles, the variables created were: name of the article, journal and year of publication, keywords and methodology used.

Excel spreadsheets were used to construct the database, and the tool VOSviewer was utilized to process the information. These applications were chosen and used because they provide an accurate and complete analysis and offer a good way to exhibit the data collected from the sample.

The data used in the development of this investigation, for both the literature review and the empirical study was found on Scopus and B-On (Online knowledge Library), provided by ISCTE-IUL (Instituto Universitário de Lisboa).

1.4. Dissertation Structure

This study is composed by five chapters, structured as follows: the first chapter is an introduction, in which the specific and main goals of the study, theme justification, methodology and the dissertation structure are presented.

In the second chapter a literature review is performed, analyzing the tax havens theme and related subjects discussed in the 10 year sample.

The third section covers the methodology used, presenting the procedure in data collection, sample and variable definition and data treatment.

The results of the empirical study are shown on chapter four, divided in two sections. In the first section the results of the researchers' characterization database analysis are exhibited and in the second part the results of the articles content database are displayed.

Lastly, conclusions, investigation limitations and suggestions for future research are present in chapter five.

2. LITERATURE REVIEW

Tax Haven definition

The first documented practices of negligent regulation date from the end of the 19th century in the states of Delaware and New Jersey (United States of America – USA), appearing in Europe by 1920, firstly in Switzerland (canton of Zug) and then in Zurich and Liechtenstein. The appearance of the tax haven term occurred later in the middle of the 20th century (Hebous, 2014).

Although the tax haven term is a well-known expression and frequently used, there is no defined criteria to determine its meaning. Schjelderup (2016) mentions that the term is used as a synonym or in alternative to “offshore financial center” (OFC) and “secrecy jurisdiction”, which neither of these terms have an accepted definition. The author uses the literature to define tax haven as a term associated to nil or low taxes, lack of transparency and no requirement of being physically present to operate. On the other hand Cardoso et al. (2011) refers to tax havens as countries that allow for tax reduction and tax avoidance practices.

For Preuss (2010) defining tax haven is not straightforward, mentioning as a key characteristic the nil or low taxes applied to a company’s income. This definition is supported by Sharman (2010) adding that characteristics such as tight financial secrecy and minimal regulation are a part of most of the offshore centers and tax havens definitions. The author considers that OFC or tax havens are jurisdictions that draw a financial regime to provide international financial service to non-resident companies and individuals. This concept has a pejorative connotation thanks to the several financial crimes associated with it, namely money laundering, corruption, terrorist funding and tax evasion.

Dharmapala and Hines (2009) define tax havens as locations with very low taxes and other characteristics conceived to attract foreign investors. They refer to them as small countries, generally affluent, with, usually, a population of under a million residents and high-quality governance institutions.

Several researchers (Działo, 2015; Preuss, 2010, 2012; Tobin and Walsh, 2013), use the Organization for Economic Cooperation and Development (OECD) tax haven definition. The list of criteria[1] through which they establish if a tax system is classified as a tax haven or not are as follows:

1 – Low or nil taxes;

2 – Lack of transparency and regulation;

3 – Absence of a need that activity be substantial (operations may be registered in a country with little or no real economic activity);

4 – Lack of effective information exchange.

Despite the fact that low or nil taxes are a key criteria in tax haven definition, Preuss (2010) refers that countries – according to OECD – have the right to determine if they want to impose direct taxes or not.

Działo (2015) mentions that the classification of tax havens can be distinguished in two main categories:

- <u>No-tax havens</u>: composed by countries that do not impose tax obligations and are known as neutral tax jurisdictions. This category includes countries that respect the principle of territoriality, which means that taxes are imposed only to the income generated in the territory and the income with foreign origin is free from taxation (example: Nauru, Cayman Island, Bermuda).

- <u>Low-tax havens</u>: countries that impose low taxes and do not relinquish the revenues obtain through the taxes, although sometimes those revenues are merely symbolic (example: Bahamas and Andorra).

Tax haven use

Slemrod and Wilson (2009) conclude that only small countries choose to become tax havens. This theory is also supported by Dharmapala and Hines (2009) reveling in their study that 15% of the countries are tax havens, with a common characteristic that they tend to be small and wealthy. These last researchers referenced that well governed countries have a higher probability of becoming tax havens, claiming that quality governance has a statistically significant association with the probability of being tax haven. Foreign investors appreciate the particular fact that governance quality is

[1] In OECD report: *Harmful Tax Competition: An Emerging Global Issue*

important, since it determines if their money is safe or not (Schjelderup, 2016). One of the biggest disparities in offshore centers, described by Sharman (2010), is the relatively high number of resident firms versus the number of inhabitants, providing, as an example, the British Virgin Islands with 446.000 companies for 22.000 inhabitants.

Christensen (2013) refers that many of the tax havens are located in small economy islands dispersed through different time zones, but most of the tax havens are politically and economically connected to the majority of OECD states. Figure 1, taken from *Financial Secrecy Index 2018*[2] (FSI), geographically shows the countries that contribute to the global financial secrecy, highlighting in blue the ten most significant secrecy jurisdictions. A detail with the names of the most secretive jurisdictions is present in Figure 2.

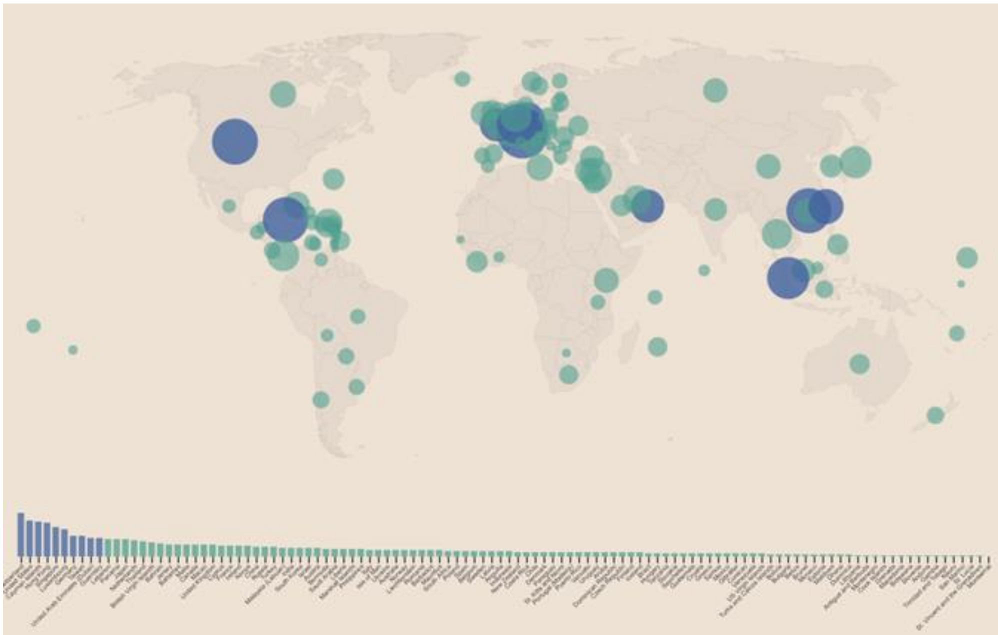

Figure 1 – Top 10 contributors of financial secrecy in the world. *Source: https://fsi.taxjustice.no/*

[2] Financial Secrecy Index classifies jurisdictions according to their secrecy and offshore activities dimension. It is a tool used to understand the global financial secrecy, tax havens and illicit financial flows. 112 jurisdictions are present in the financial secrecy index ranking report of 2018 (Appendix 1) with their respective position and secrecy score. (Consulted in the following website: https://www.financialsecrecyindex.com/en/ which is not a part of the sample selected for this study)

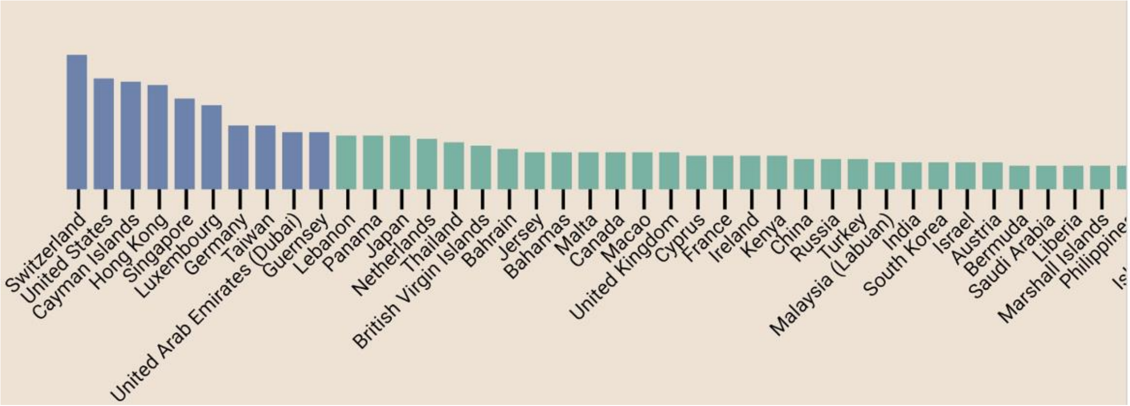

Figure 2 – Top 10 Secrecy jurisdictions. *Source: https://fsi.taxjustice.no/*

Switzerland, an OECD founding member, held the top position in the ranking, being the oldest of modern tax havens, given that long before World War II the banks basements received assets from political and social upheavals in Russia, Germany and South America (Doggart, 2004)[3]. The FSI analysis is built on the basis of twenty financial secrecy indicators, which analyze the adoption of international standards, tax and financial regulation, entity transparency and ownership registration. Switzerland stands out due to the fact that assets and wealth management, investment banking, insurance and re-insurance, represent 10% of the gross domestic product. The analysis of FSI indicators award first place to Switzerland in the 2018 ranking of global financial secrecy, because of high levels of financial secrecy in banking activity, firms tax data and companies ownership registration. Despite the fact that this country has satisfactory results in the adoption of international standards and tax information exchange agreements, it still demonstrates resistance in the adoption of automatic tax information exchange[4].

The Portuguese example is presented in Figure 3 – also an OECD member since 1961 – ranked 64th in the FSI ranking with a score of 54.7, making it a small entity in the field of secrecy and financial offshore activities (Appendix 2). The higher level of secrecy, in the twenty analyzed indicators by FSI, lies in the disclosure of tax data and firms reports. The adoption of international standards, such as anti-money laundering politics,

[3] Doggart (2004) is not a part of the established protocol.
[4] Information extracted from the following source: https://www.financialsecrecyindex.com/PDF/Switzerland.pdf

international cooperation and automatic tax exchange agreements reveals a successful performance by Portugal[5] (Appendix 3).

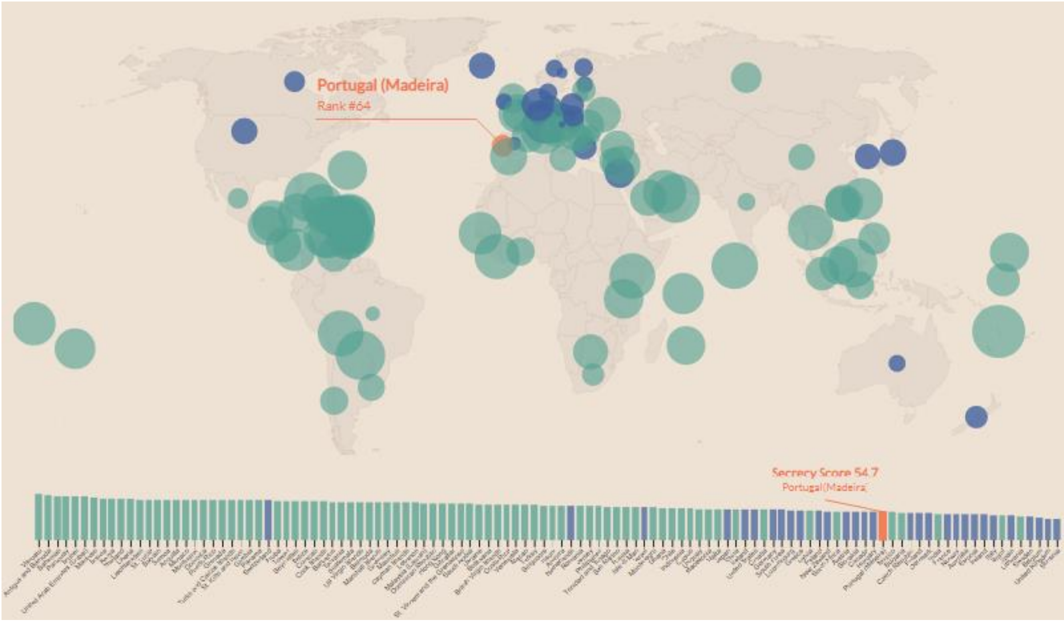

Figure 3 – Financial secrecy measurement in a jurisdiction: Portugal (Madeira). *Source: https://fsi.taxjustice.no/secrecyscore/oecd*

When questioning what are the benefits for a country to become a tax haven, Hebous (2014) asserts that attracting money is the main one. Schjelderup (2016) adds that tax haven revenues come from the financial sector, which serves foreign investors, gaining fees through the maintenance of companies' registrations and accounts. Earnings are obtained as well from local services and advocate firms that set up to administrate the foreign investor affairs.

The important role of tax havens can be explained by two reasons. Firstly, the fact that low or nil taxes are offered by tax havens - through bilateral tax agreements for example - and may result as an important incentive for firms and individuals to shift revenue from high tax jurisdictions. And secondly, tax havens frequently offer secrecy (for example banking secrecy, lack of tax information exchange among jurisdictions, etc.), which can allow for tax evasion and avoidance practices, enabling taxpayers to remain hidden from other countries' tax authorities. The referred elements increase the ability of tax havens to attract foreign capital, which has become easier since the 1970s, due to intense globalization and financial de-regulation (Janský and Prats, 2015).

[5] Information extracted from the following source: https://www.financialsecrecyindex.com/PDF/Portugal_Madeira.pdf

According to Slemrod and Wilson (2009) the elimination of tax havens will be benefic to the rest of the countries, however the elimination of a big number of tax havens (including the smaller ones) involves some potential difficulties. Meanwhile, Johannesen (2010) obtained a different outcome, arguing that the incentive to engage in aggressive tax competition would persist even if the elimination occurred. In such a scenario the author affirms that it would be expectable for some countries to assume the role of low tax jurisdiction of tax havens, leaving the rest of the jurisdictions in a worse position than before.

It is not clear if tax havens promote money laundering[6], and for this reason Schwarz (2011) studied the relation between tax havens and money laundering centers reaching two conclusions. Firstly, that tax havens and money laundering services share some complementarities. Tax havens have an uncooperative behavior regarding the implementation of strict regulation in order to increase the probability of money laundering detention, since such a regulation could inhibit their business model, especially those specialized in household capital income tax evasion. Secondly, this effect is only noticeable in tax havens that lack from credible reputation and try to provide a propitious environment for economic crimes, which means the poorer ones. Thereby, conclusion can be drawn that tax haven status may not be inherently associated with fragile anti-money laundering policies, and that the adoption of policies by tax havens are closely similar to the ones implemented in non-tax havens.

Many firms reached an ideal situation through the use of OFC, allowing them to present high profits to investors and low (or negative) profits to tax authorities. In order to achieve this, companies disclose their profit reports in two different occasions, to tax authorities in private (tax profit) and to investors in public (accounting profit). With the introduction of corporate income tax, it was intended that both tax and account profits would be similar or even equal, which ended up not happening due to an opportunistic accountancy that lead to discrepancy in these values (Sharman, 2010).

[6] Money laundering: Money generated from illegal activities (for example drug trafficking) and introduced in the economy, taking the form of a financial asset around the world. The money circulation in the country makes it cheaper and more easily available, resulting in a positive stimulation of investment and consumption. The outcome is a positive macroeconomic effect, due to the lower unemployment rates and higher growth rates, without the need of government policies intervention (Unger e Rawlings, 2008).

Thus, offshore firms are used for a big variety of uses, described below are the existing practices.

Income Shifting/Profit Shifting:

Income Shifting makes it difficult for external investors to identify the true location of earnings, since the jurisdiction in which the company reports the income for tax purposes is not necessarily the jurisdiction where that income was generated. Income shifting is a practice were income is reported in a different place due to low taxes, increasing the complexity of companies operations and diminishing transparency of the accounting information, resulting in a decrease of information quality. In order to shift income to low tax jurisdictions, companies that hold multinational business operations allocate their assets using techniques such as transfer pricing[7], cost sharing agreements, among others (Chen et al., 2018).

Laws and conducts are established by countries to guarantee that the prices used between related parties, i.e. transfer pricing, are appropriate and result from the correct allocation of income between jurisdictions. Transfer pricing aggressiveness in international context means the reduction of tax payment through the allocation of profits (or losses) between members of a group that are located in different tax jurisdictions by manipulating intentionally the intra-group price transfer. The fiscal benefits appear for the group as a whole, as a consequence of the inadequate fixation of prices, goods, loans, interests and royalties between related parties (Taylor et al., 2015). As mentioned by Chen et al. (2018) it is difficult sometimes for tax authorities to counter-argument tax-favored price transfer transactions if they are documented and established under the law. The empirical study carried on by the researchers' documented new evidence that tax-motivated income shifting produces substantial costs of information asymmetry.

Johannesen (2012) identifies the intra-group loans from finance subsidiaries in tax havens to operating subsidiaries in high tax countries as a common technique of profit shifting. These loans result in a tax saving, because the profits achieved by the operating subsidiaries are used to pay interest to the finance subsidiaries, which in turn is not

[7] Transfer pricing refers to the establishment of prices for goods and services sold between two related parties, for example between the parent company and its subsidiary or between two subsidiaries (Kyj e Romeo, 2015).

taxed since the finance subsidiaries face no taxation (zero tax). In the matter of royalties, patents are licensed to entities in tax havens and in return of royalty payments these entities sublicense the patents to other operating subsidiaries. The revenues collected by the tax haven entity are taxed with zero tax and the operating subsidiaries see their taxable income decrease through royalty payments. In regards to dividends, holding structures are used to transfer the dividends and therefore avoid tax payments. Some multinational enterprises have a tax haven entity as a parent firm, and use the mentioned structure to repatriate profits to the parent company.

Treaty Shopping

Riet and Lejour (2018) refer to treaty shopping as a practice used by multinational companies to explore the differences in tax codes from different jurisdictions. Multinational firms instead of investing directly in the host country, redirect their investment through a third country, so they can benefit from treaties which do not exist among the host and the origin investment country. The treaties, known as double tax treaties, are formulated to avoid the double taxation of corporate income and stimulate mutual foreign direct investment. These treaties are used to reduce multinational tax burden and, according to the research done by the authors, on average treaty shopping leads to a potential decrease of 6% of the tax burden in dividend repatriation. The reduction on tax repatriation using this technique can be explained by two motives: (i) firms benefit from routes with a lower withholding tax and (ii) companies chose routes in order to avoid double taxation and consequently benefit from it in their home country.

Double Irish e Dutch Sandwich

Double Irish is a technique used essentially in software companies with intellectual property in order to reduce their tax obligations. This method relies on the Irish law, which establishes that taxation is applied where the firm is functionally managed, not necessarily where it is based (territorial taxation). To implement this technique two or more interconnected Irish firms are necessary and one of them must be located in a tax haven country such as Bermuda or Cayman Island. Microsoft is one of the companies that use this practice as a strategy to minimize taxation through income shifting from a high tax country to a low or nil tax jurisdiction (Kyj and Romeo, 2015).

Another tax avoidance method is the Double Irish with a Dutch sandwich, characterized as profit shifting to low or nil jurisdictions. Profits are sent to an Irish firm, then to a Dutch firm and lastly to a second Irish company headquartered in tax haven. The tax haven company is classified as a holding that manages the Irish firm, thereby taxation occurs in that tax haven (territorial taxation), i.e. with low or nil tax. The Dutch firm is used as a shield to shift income inside the European Union without being subject to tax payments. This technique was invented by Apple and adopted by hundreds of others firms, allowing some multinational companies – for example Apple and Google - to avoid triggering income tax on their profits (Lee, 2017).

Figure 4 shows a complex structure of this profit shifting scheme, using various tax haven subsidiaries and non-tax haven subsidiaries. The bigger the number of subsidiaries involved, the higher the complexity and secrecy will be, which hinder tax authorities' work on tracking them (Jones et al., 2018).

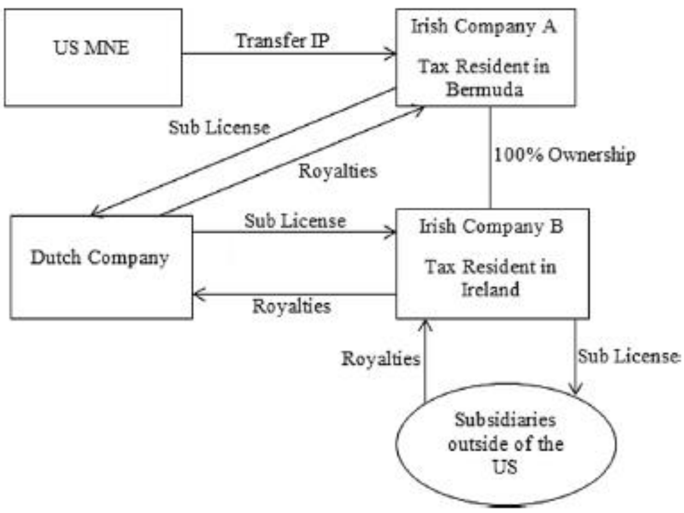

Figure 4 - Double Irish and Dutch Sandwich. *Source: Jones et al. (2018)*

The schematic on Figure 4 is presented by Jones et al. (2018) to illustrate the scheme used by several companies, namely Apple, Facebook, Google and Microsoft. It shows a North American multinational parent firm transferring intellectual property to an Irish firm A, which resides in Bermuda tax haven. Firm A sublicenses the intellectual property to a tax resident firm in Netherlands, which in turn sublicenses it to Irish firm B (a tax resident firm in Ireland and wholly-owned by the Irish company registered in Bermuda). Finally Irish firm B sublicenses the intellectual property all over the world among non-tax haven locations. This type of structure shows the reason why the number of subsidiaries is significant, noticing that royalties flow between subsidiaries and taxation is avoided in multiple locations, shifting profits to a tax haven (Bermuda in this case) where corporate tax rate is low or even nil.

Developed by Battisti (2014), Figure 5 describes the utilization of tax havens by multinational companies. The author presents a firm, considered as a successful company, which intends to expand their activities in the international market and in order to do so establishes a number of subsidiaries in various countries. In this case the parent firm operates in a developed country and pays higher taxes than its subsidiaries (Figure 5A). In a later phase tax differences are explored through the transfer of goods and services between the entities, splitting profits among the companies that are independent from each other and thereby free to establish the product prices to be inserted in market. An example of this scenario is the license of patents that allow for taking advantage of tax differences, channeling the income to be taxed in low or nil jurisdictions (Figure 5B). Since the taxation of companies is made on the basis of results, the group submits small economic results in high tax countries and good results where the taxation is lower (Figure 5C). This is achieved due to the utilization of techniques that involve tax havens, such as the Double Irish-Dutch Sandwich example (Figure 5D), which allows for income to be shifted to low tax jurisdictions. A tax saving network is the final outcome of tax haven utilization leading to higher profit margins.

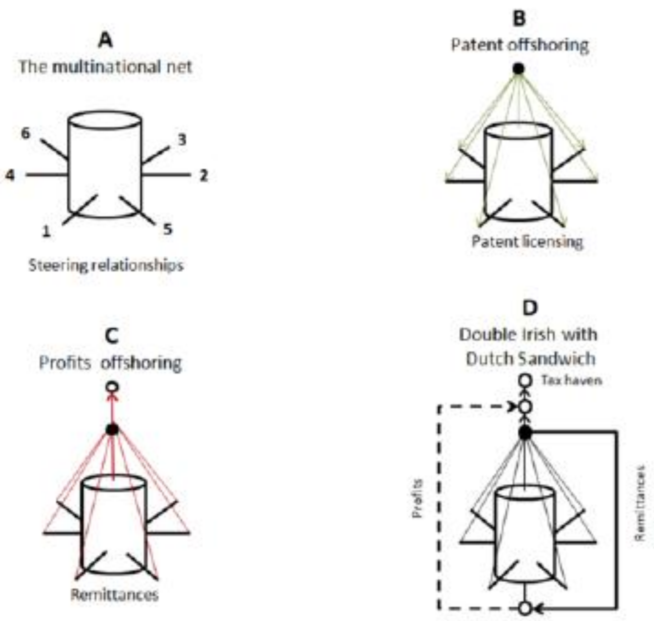

Figure 5 A to D – Multinational stages of profit shifting. *Source: Battisti (2014)*

Globalization has made tax havens more important and subsequently the opportunities to shift profits to low tax jurisdictions by multinational companies increased, changing their fiscal strategy in order to achieve international earnings which in turn created new challenges to policy makers (Krautheim and Schmidt-Eisenlohr, 2011).

Tax Havens and Tax Policies

The tax haven theme has become more discussed globally in the last few years for several reasons. In 2008 a global tax scandal emerged after a leak containing client data from a Liechtenstein trust[8] company was provided to tax authorities around the world. This was not an isolated case and other similar scandals came around since then, originating an increase in investigations related with the tax havens role by governmental and non-governmental organizations (Tobin and Walsh, 2013).

Recent examples such as the Panama Papers in 2016, where details of thousands of companies held anonymously were exposed, and Luxleaks in 2014, in which one of the Big 4[9] assisted multinational firms with legal tax decisions to help them channel billions of dollars – originated from activities that occurred in other jurisdictions – through Luxembourg from 2002 to 2010 in order to avoid tax payments. Big 4 accountancy firms have an important role, not only in the accountancy services they provide to multinational enterprises, but also in the expansive tax advice they offer them, since the experience and influence they possess allows their clients to reduce their effective tax rate (Jones et al., 2018). In the empirical study conducted by Jones et al. (2018) it is revealed that a strong positive correlation exists between the use of Big 4 accountancy by multinationals and how they build, manage and maintain a tax haven network.

In order for tax havens to stay under global governance, G7 instructed OECD and FATF (Financial Action Task Force) to persuade the states to adopt their standards and to guide and inform about money laundering and international tax policies. The states that were not in conformity to the standards appeared in blacklists (Eggenberger, 2018).

Blacklists are a public entity registry, with negative connotation, due to actions or practices considered inconsistent with international standards. It is a modern tool used

[8] Trusts are legal arrangements, in which the owner transfers the assets to an individual ("trustee") in order to manage in others benefit ("beneficiaries"). It is an agreement protected by secrecy, since it allows the real assets owners and beneficiaries to remain anonymous. (Knobel, 2017) – This article is not on the established protocol.

[9] Deloitte, EY, KPMG e PWC

in international political economy with the aim to change conducts and generate higher costs than the benefits gained by companies through the behaviors that lead them to be registered in those lists. OECD blacklists, as mentioned by Eggenberger (2018), functioned only as disclosure and denouncing exercise, in contrast to FATF lists in which punishment was exercised on infractions, resulting in a severe penalty and showing the reason why these lists were more efficient than the OECD lists.

In order to avoid OECD blacklists, tax havens were forced to sign Tax Information Exchange Agreements – TIEA. This was a G20 initiative that reflects the heavy burden left in government finances due to the financial crisis and global recession initiated in 2008, which lead to the creation of policies to reduce tax evasion and avoidance and obtain more revenue (Bilicka and Fuest, 2014). Hampton and Christensen (2011) mention TIEAs as policies drawn to increase transparency in financial markets and reinforce tax affair cooperation, seeing as there is a requirement that tax havens sign at least twelve TIEAs in order to avoid being classified as non-cooperative jurisdiction. According to the study performed by Bilicka and Fuest (2014), OECD initiative for tax information Exchange was a success, since it encouraged tax havens to sign TIEAs with the right countries, not being evident any clear sabotage attempts to sign treaties with countries with insignificant economic relations. However it does not mean they have established agreements with all the important partner countries, since on average, tax havens only signed treaties with half of the five countries with which they possess greater economic links, showing there is still a long way to go.

The European Union (EU) adopted in 2005 an initiative on the basis of tax information exchange, the Tax Savings Directive, with the goal of establishing effective taxation in foreign interest income of EU residents. Overall, the directive aims to restrict tax evasion and covers all EU countries as well as fifteen offshore[10] centers (Appendix 4 shows cooperative and non-cooperative offshore jurisdictions). To cooperate with the directive, countries can chose one of two alternatives: the automatic exchange of information or withholding taxes. In the first regime the interest income received by EU households is reported by the banks to tax authorities, which will automatically report to the household's home country. The second regime demands banks to collect the

[10] Andorra, Anguilla, Aruba, British Virgin Islands, Cayman Islands, Guernsey, Isle of Man, Jersey, Liechtenstein, Monaco, Montserrat, Netherlands Antilles, San Marino, Switzerland and Turk and Caicos Islands

withholding tax from interest income of EU household, defined as 15% in 2005, progressively increasing to 20% in 2008 and 35% in 2011. Banks send the withholding tax to tax authorities and taxpayers remain anonymous, while 75% of tax revenue is transferred to the home country of the households. The majority of EU countries adopted the exchange information regime while a large number of offshore centers (including Switzerland) opted for the regime of withholding tax (Caruana-Galizia and Caruana-Galizia, 2016; Johannesen, 2014).

Johannesen (2014) mentions that, as referred by European Commission, the savings directive may be avoided in various ways. Firstly, the assets can be transferred to one of the non-cooperative countries of the directive, thereby escaping the withholding tax. Secondly, transferring the formal asset property to a society or trust is enough for it to fall outside the directive sphere. Lastly, the investors can replace assets that generate interests for structured finance products, which the directive is not applied to, since the return of such product is not considered as interest.

Tax havens research

The literature offers several studies about tax havens, namely tax haven use and tax policies and their implementation. Presented in this section are the studies made by some researchers.

As mentioned before, about 15% of countries are tax havens, tending to be small, wealthy and with high-quality governance institutions. Dharmapala and Hines (2009) in their research reveal as well that the probability of a country with less than one million residents becoming a tax haven rises from 26% to 61%. They concluded that statistically, countries with high-quality governance are more likely to become tax havens, showing that low taxes offered by them are more powerful incentives to foreign investment than low taxes offered elsewhere, which explains the reason why poor governance countries do not become tax havens.

Jiang et al. (2017) observed that higher levels of tax avoidance were showed by North American firms in which the directors possess connections to firms based in the Bahamas, Bermuda and the Cayman Islands, obtaining as a result of this investigation that the influence of these directors has a significant effect in corporate tax policy. The impact of the arrival of a director with such connections is associated to a reduction of the effective tax rate between 1% to 3% and an increase of tax haven subsidiaries utilization. Looking at the research performed by Jones et al. (2018), about tax advice provided by Big 4 accountancy to multinational companies, a strong correlation between tax haven network and the use of Big 4 was revealed, as well as a significant impact of the auditors in multinational tax avoidance behavior.

Due to the increasing criticism from politicians, regulators and citizen groups, regarding profit shifting to low tax jurisdictions by multinational enterprises, there has been a decrease in transparency in order to disguise their tax avoidance activities. This conclusion is provided by Akamah et al. (2018) in their study, indicating that if such activities are too evident they may provoke public scrutiny by media and governments, damaging the company's reputation and leading to potential governmental sanctions and additional regulation. Choy et al. (2017) examined the effect of a report disclosure of firms that held a tax haven subsidiaries network, reporting evidences that such action had a negative impact due to governmental scrutiny, reputation and investor sentiment. As a result, well managed companies and the ones with many tax haven subsidiaries experienced considerable depreciation, specifically a market crash of 0,9%, corresponding to around 9 billion pounds in market capitalization.

Using a sample of companies in offshore centers (Bermuda and Cayman Island) from 2008, it was documented that companies with tax avoidance practices and domiciled in tax havens, committed themselves with corporate social responsibility practices. The more pronounced commitments undertaken in the sample were to maintain high ethical standards, environmental responsibility and corporative citizenship. Firms headquartered in offshore centers presented significant efforts in the creation of conduct codes and commitment to employees, specifically, harassment eradication, diversity promotion and to ensure health and safety at work (Preuss, 2010). These results are in line with the study presented by Preuss (2012)[11], since 96% of sample adopted a code of conduct. The author concluded, with the analysis, that the tools that require major investment, such as certification of social and environmental standards, are reported with less frequency and tools relative to stakeholder's responsibility are underrepresented in the sample.

[11] Study made on the same offshore center basis, making an analysis of Corporate Social Responsibility (CSR) tools.

There are several studies about tax haven utilization, with authors like Grantley Taylor and Grant Richardson standing out. Empirical research developed by them analyzed the variables associated to the use of tax havens in Australian and American firms, achieving the following results:

- Transfer pricing, withholding taxes, intangible assets, interaction between transfer pricing and intangible assets, corporate governance structures and multinationality are the most important factors of tax haven use (Taylor et al., 2015);

- Tax havens utilization is positively associated with: transfer pricing, withholding taxes, intangible assets, interaction between transfer pricing and intangible assets, performance-based management remuneration and multinationality (Taylor et al., 2015);

- From a standard point of view, in order for tax avoidance practices to be adopted, corporate governance structure exerts a direct influence on incentives and administration abilities. According to tax authorities, successful firms have less probability to be involved in aggressive tax avoidance practices, which is in line with what the authors research showed: weak corporate governance structures are negatively associated with tax haven use (Taylor et al., 2015);

- Multinationality, price transfer aggressiveness, thin capitalization and intangible assets are positively associated with tax haven use (Richardson and Taylor, 2015);

- Fundamental economic factors such as tax haven use and the level of intangible assets assist many firms in gaining tax benefits through transfer pricing aggressiveness (Taylor et al., 2015);

- Several practices are used by enterprises to reduce tax liabilities, namely, thin capitalization, transfer pricing, income shifting, multinationality and tax haven use, with thin capitalization and transfer pricing being the most substantial (Taylor and Richardson, 2012).

Table 1 presents the results obtained by the researchers in regards to tax haven utilization variables, detailing the period and sample of the study.

Table 1 – Empirical study on tax haven use and its variables.

Authors	Sample	Period	Variables	Results
Taylor et al. (2015)	200 Publicly listed Australian firms	2006-2010	Transfer pricing	+
			Withholding taxes	+
			Intangible assets	+
			Managers remuneration	+
			Multinationality	+
			Corporate governance structure	-
Richardson e Taylor (2015)	286 North American multinationals	2006-2012	Multinationality	+
			Thin capitalization	+
			Transfer pricing aggressiveness[12]	+
			Intangible assets	+
Taylor e Richardson (2012)	203 Publicly listed Australian firms	2006-2009	Tax avoidance practices	+

Legend: "+" positively associated, "-" negatively associated

Developed economies are not the only ones with investments in tax havens, since emerging economies have expanded internationally through foreign direct investment and cross border acquisitions. The research performed by Chari and Acikgoz (2016), reveals that investments made in tax havens by emerging economies are not usually motivated by the traditional factors, such as market demand, knowledge, resources or strategical assets, but driven instead by the low taxes in host countries and the institutional fragility of the home country.

In regards to the emerging economy scope Sutherland and Anderson (2015) studied Chinese multinationals, revealing their investments are made on holdings located in specific offshore financial centers, usually on the triad jurisdictions made of Hong Kong, Cayman Islands and British Virgin Islands. The authors documented that multinationals not only direct foreign direct investment (FDI) to this triad, but also channel significant amounts of FDI from these offshore jurisdictions to other countries.

Still in an emerging economies perspective, Janský and Prats (2015) analyzed multinational enterprises that operate in India and have connections with tax havens, reporting that they pay less taxes than multinationals that do not have such connections.

[12] Result also achieved by Taylor et al. (2015) in their study, using the same sample and period.

The authors confirm the idea that when firms possess these types of connections, the low taxation provides more incentives and the secrecy offered by tax havens generates larger opportunities for income shifting. As a consequence, profit shifting by multinationals reduces substantially the tax revenues of governments, harming the efforts to handle areas such as poverty and human development investment. The achieved results by the researchers are aligned with OECD in the BEPS (Base Erosion and Profit Shifting) report of 2013, stating that income shifting to low tax jurisdictions may be the main reason of tax base erosion in India, indicating that current laws of transfer pricing may not be efficient to combat tax evasion caused by firms profit shifting.

Offshore tax evasion is one of themes most discussed by decision makers and researchers, with the European Tax Savings Directive being one of the implemented policies to fight this phenomenon, in effect since 2005. The directive reinforces the offshore taxation through the application of withholding taxes by offshore banks without compromising the bank secrecy of the cooperative offshore centers, since the identity of the tax payers is not provided to the tax authorities. Households are exempt of the withholding tax when they allow the offshore banks to report the interests received, which implies that households are not affected as long as they act in conformity, affecting only those who are not available to report offshore interest income (tax evaders) (Johannesen, 2014).

The research performed by Johannesen (2014) analyzes the reaction to the tax savings directive by the households that held non declared offshore deposits. The author concluded that the directive caused an intense decrease of 30-40% in deposits held by EU households on Swiss banks, and a reduction of 15-30% in deposits of other cooperative offshore centers – Luxembourg, Jersey, Guernsey and Isle of Man. The researcher points out that the tax savings directive lead to a substantial increase of bank deposits owned by EU households in Panama and Macau, suggesting that the transferred deposits to offshore centers outside the directive sphere are, partially, the reason why Swiss bank deposits decreased. These results show that in response to the directive, two of the three possibilities to avoid taxation were explored, and thus diminishing the efficiency of the political measures through evasive strategies.

Caruana-Galizia and Caruana-Galizia (2016) obtained results in line with Johannesen (2014), since their analysis showed that offshore tax evasion strategies are largely replaceable. The Tax Savings Directive is a partial effort to combat evasion because it only treats: (i) interest income, leaving aside other types of assets; (ii) assets held directly, allowing the use of fictitious companies. This is the point which Caruana-Galizia and Caruana-Galizia (2016) emphasize the most in their research, concluding that the number of EU owned firms decreased after the implementation of the directive while the number of non-EU owned firms remained about the same.

Tax Havens associated themes

In the research, Tax Havens are frequently associated with other subjects, such as Tax Avoidance, Tax Evasion and Tax Competition, to which the OECD has dedicated particular attention and will be described below.

<u>Tax Avoidance</u>

Lee (2017) refers to tax avoidance as a legal tax planning action, while Christensen (2011) in turn refers that tax avoidance disables the capacity of modern states to provide the services required by the citizens, since it corrupts the revenue system.

Campbell and Helleloid (2016) provide the Starbucks case as an example of tax avoidance, highlighting the fact they have only been taxed once in their fourteen year presence in the United Kingdom (UK), by using techniques such as royalty payments and transfer pricing. Business operations and the Starbucks brand were licensed to Starbucks UK in order for them to use the intellectual property, receiving as compensation royalty fees, which were payed to a low tax jurisdiction (profit-shifting) and responsible for the reduction of the taxable income. In regards to transfer pricing, Starbucks UK purchased coffee from the Starbucks trading company headquartered in Switzerland and the transformation process was made by Starbucks Netherlands. The cost price of the products sold in the UK increased due to the prices charged among the three Starbucks, leading to a reduction of the taxable income in Starbucks UK through the shifting of income to entities in Switzerland[13] and/or Netherlands (tax agreement as an incentive to locate the company in the Netherlands).

[13] International goods trade tax: 5%

Although tax avoidance practices are common between multinational enterprises, Starbucks in response to the public criticism, decided to emphasize their commitment as a socially responsible company and as a good corporative citizen. Campbell and Helleloid (2016) indicate that Starbucks released in their CSR report commitments such as a reduction of the environmental impact, community improvement, health insurance for employees and family, discounts in purchased goods by employees, among others.

Tax Evasion

Tax evasion refers to an illegal tax planning action, with the difference between tax avoidance and tax evasion being, essentially, their legality (Lee, 2017). This difference is also underlined by Otusanya (2011), as the author refers to tax evasion as an illegal practice that reduces governmental revenues destined to provide infrastructure, services and public utilities, while tax avoidance practices produce the same effect but are not illegal.

Since 1980, international financial centers have risen in number and economic importance, competing as a tax and secrecy haven, which has become appealing not only for business and political elites, but also for those that profit from illicit activities, i.e., for those involved in tax evasion. Scandals such as Panama Papers provided regulatory scrutiny over the role of financial institutions as facilitators on the creation of offshore companies and consequent tax evasion risk. Strict measures were implemented by European governments, among others, to look more seriously into the recovery of lost tax revenue. From a global point of view, Panama Papers triggered more efficient measures to be taken by the G20 and the OECD, namely to put in practice the adoption of automatic tax exchange till the end of 2018, pushing jurisdictions to become signatories of the Multilateral Convention on Mutual Administrative Assistance in Tax Matters (MCAA), or possessing a sufficiently large network to exchange tax information (Yeoh, 2018).

Tax Competition

Tax competition is defined as the use of tax policies in order to maintain or increase the attractiveness of a business location in a particular territory. In a general perspective, it means that different tax authorities impose differentiated taxes and by lowering their tax rates countries stimulate their economies and become more attractive to receive investments. The tax competition process consists in the introduction of additional legislation in a country as a way to diminish the tax burden of foreign investors and consequently attract capital. It is mainly used by underdeveloped countries and the inflow of foreign capital allows for the implementation of modern technologies, new management methods and increase in exportations. One of the effects of tax competition is the creation of tax havens (Działo, 2015).

Hebous and Lipatov (2014) refer that, in the global economy, the role played by tax havens is seen as international tax competition. Most of the studies that have been made assume that real company's transactions are made in high tax countries and that subsidiaries in tax havens are used to receive part of the firm's income, shifting the revenue from home country to host country for tax avoidance purposes.

OECD and EU took some initiatives to reduce the negative effects of tax competition's harmful phenomenon by developing a variety of reports in order to eradicate disloyal tax competition. Documents such as "*Harmful Tax Competition: An Emerging Global Issue"* of 1998 (OECD), "*Progress in Identifying and Eliminating Harmful Tax Practices*" of 2000 (OECD) and "*Code of Conduct on Business Taxation*" of 1998 (UE) are examples of the developed reports (Działo, 2015).

<u>OECD</u>

OECD have shown over time their concern in regards to tax havens concluding, in a report published in 1998, that tax base erosion is a consequence of actions taken by countries which offered means for tax payers to explore tax havens, encouraging governments to take measures. The report contained recommendations for legislation, tax agreements and international cooperation. In the year 2000, OECD published the name of 35 countries denominating them as "non-cooperative tax havens", which would face economic sanctions if reforms were not implemented in their tax system and tax information exchange with tax authorities was not expanded in one year. Almost all tax havens in the blacklist had signed the OECD Memorandum of Understanding, by the year 2005, consenting to provide transparency and information exchange (Slemrod and Wilson, 2009).

Several tax havens reacted to the political pressure and changed their policies in regards to banking secrecy and exchange of information. Most of these countries, between 2000 and 2002, made a formal commitment to adopt the standards developed by the OECD, publishing a new blacklist in 2002 with the seven jurisdictions[14] that refused this commitment. The financial crisis and global recession that began in 2008 resulted in a heavy burden for government finances, creating the need for methods to increase revenue and reduce tax evasion. Tax havens and OFC were seen as elements that contributed for the crisis by allowing financial institutions to avoid regulation and supervision. Taking into account these events, the G20 placed tax havens and OFC as a priority on the international political agenda, with the purpose of reinforcing transparency in taxation and regulation (Bilicka and Fuest, 2014). Tobin and Walsh (2013) refer that, as an answer, the OECD and G20 focused their efforts on fighting tax havens, and in 2009 a new blacklist was published, by the OECD, containing the names of the territories that refused to exchange tax information.

In February of 2013, the OECD in a joint action with the G20 published the Base Erosion and Profit Shifting (BEPS) report. This report came as a response to the needs presented by the leaders of the G20 in a the meeting in June of 2012, where their concerns were shown in regards to the erosion of tax base and profit shifting by multinational enterprises. The OECD recognizes in the report that the international tax system is characterized by tax competition, providing several opportunities for multinationals to explore loopholes in the law and to take advantage of non-taxation income (Janský and Prats, 2015). Haugen (2018) mentions BEPS as the initiative that seeks to avoid profit shifting practices to low tax jurisdictions, highlighting the OECD commitment to fight tax dodging by identifying that four of the fifteen measures are relative to transfer pricing.

[14] Andorra, Liechtenstein, Liberia, Republic of the Marshall Islands, Monaco, Republic of Nauru e Republic of Vanuat.

3. METHODOLOGY

In this chapter the methodological procedures used are identified and presented in 4 sections. Primarily, the data collection procedures are described, identifying the conditions of inclusion and exclusion from the sample. The sample definition is made in the second part, and the variables of the study are defined in the third part. Lastly, the data treatment procedure is exposed.

3.1. Data collection procedure

Quantitative research is defined by Anderson and Widener (2006) as a research that uses data that can be represented numerically and are of quantity and quality to support the empirical analysis, using parametric and non-parametric statistical methods. The present investigation is classified as a quantitative analysis, proceeding in a first stage with the identification and selection of a set of scientific articles.

For the selection of articles, Scopus was the database chosen and the keyword used was "tax havens". The time selected was the period between the years 2008 and 2018. Only scientific articles published in English were included, excluding conference papers and book chapters. This database was built with the intent to analyze the content of the articles and to obtain knowledge about the research status since the beginning of the financial crisis of 2008 till the year 2018.

Once the data collection method was defined and the articles for the study selected, a database was built in order to help with analyzing the articles, using the following variables relative to the researchers: affiliation institution, nationality, name and number of authors. In regards to the content of the articles, the selected variables were: name of the article, journal and year of publication, keywords and used methodologies.

In order to simplify the analysis of the mentioned variables, Excel spreadsheets were used to construct the database, creating criteria and structure to enable a methodical, organized and strict collection of information in this study. In Figure 6 a schematic is presented with the established items for data collection in each scientific article.

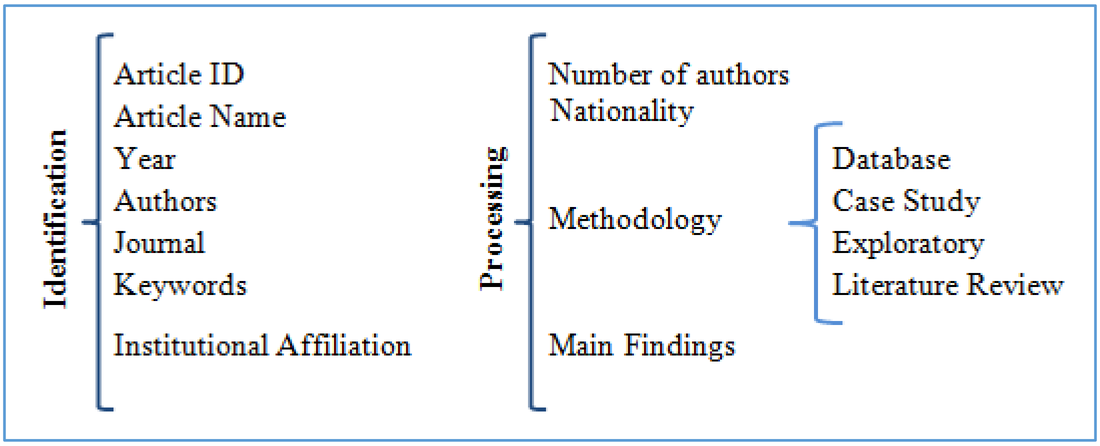

Figure 6 - Items used in data collection.

For processing the information gathered two tools were used: Excel and VOSviewer. The last mentioned tool is characterized as software for construction, analysis and visualization of bibliometric networks. These tools were chosen and used due to the fact that they allow for a better way of analyzing and exposing the data collected from the selected sample. Excel was used to construct tables and bar/pie charts, in order to facilitate counting and data analysis. VOSviewer was used to build and visualize bibliographic maps, allowing a deeper and easier analysis into variables such as most discussed themes by the authors, most cited articles and relation between authors.

The data used in the development of this investigation, for both the literature review and the empirical study was found on Scopus and B-On (Online knowledge Library), provided by ISCTE-IUL (Instituto Universitário de Lisboa).

3.2. Sample definition

The articles were selected through Scopus using the criteria described in “3.1. Data collection procedure” and a total of 82 articles were found. After the selection, B-On was used in order to obtain the articles presented in the Scopus search. Out of the 82 articles that met the selection criteria, only one was unavailable, which meant that the eligible sample of the study was made of 81 articles.

Once the article analysis was made using the database built in excel, the most used methodology was found to be “databases” with a total of 36 articles and the less frequent one was “case studies” with 4 articles, as exposed in Table 2.

Table 2 – Typology of the articles in the study.

Typology	Articles number
Databases	36
Literature Review	30
Exploratory	11
Case Studies	4
Total	**81**

Taking into account that the main goal of this study is to analyze the empirical research in tax havens produced between the years 2008 and 2018, the study sample is therefore composed by 36 articles. Presented in Table 3 are the articles that compose the sample, identifying the following items: article title, name of authors, source of information used by the authors in their research, sample used, time period analyzed and area of study.

Table 3 – Articles used in the empirical study.

Article Name	Author(s)	Source	Sample	Period	Area of Study
Optimal tax routing network analysis of FDI diversion	Riet and Lejour (2018)	Worldwide Corporate Tax Guide	108 Jurisdictions	2013	Network analysis on the international corporate taxation.
The effect of tax-motivated income shifting on information asymmetry	Chen et al. (2018)	Compustat	USA	1995-2012	Relation between information asymmetry and tax-motivated income shifting by firms.
Offshore Expertise for Onshore Companies: Director Connections to Island Tax Havens and Corporate Tax Policy	Jiang et al. (2017)	BoardEx, OSIRIS, Compustat, Compaq Disclosure	E.U.A (29.191 year-firms observations)	1994-2010	Analyzes if directors with connections to well-known tax havens islands, present higher level of tax avoidance.
Global distribution of revenue loss from corporate tax avoidance: re-estimation and country results	Cobham and Janský (2018)	ICTD-WIDER GRD	49 to 120 Countries	1980-2013	Present a new geographic perception of tax avoidance in international companies.
Tax haven networks and the role of the Big 4 accountancy firms	Jones et al. (2018)	ORBIS by Bureau Van Dijk	5912 Firms[15]	2005-2013	Relation between consulting and auditing firms – Big 4 – and the extent to which multinational companies build, manage and maintain a subsidiaries network in tax havens.

[15] 5912 Multinationals enterprises from 12 developed countries (Australia, Canada, New Zeeland, United Kingdom, USA, Austria, Germany, Japan, Denmark, Finland, Norway, Sweden)

Tax havens and disclosure aggregation	Akamah et al. (2018)	Exhibit 21	E.U.A (2.698 firms)	1998-2010	Study about the utilization of tax havens by Multinationals, level of transparency in the disclosure of information and the inherent costs.
Protected tax havens: Cornering the market through international reform?	Kolstad (2017)	Hines (2010), Johanneson and Zucman (2014)	50 Tax Havens	1997-2015	Analyzes if the international reform period favored protected tax havens, namely havens with strong connections to UK, EU, USA and China comparing those to tax havens without such connections.
Can Territorial Tax Compliance Systems Reduce the Tax Avoidance of Firms with Operations in Tax Havens?	Lee (2017)	KIS-DATA	Korea (9.228 firm-year observations)	1999-2014	Studies the association between the implementation of tax compliance systems and firms tax avoidance.
Do tax havens create firm value?	Choy et al. (2017)	ActionAid (Non-Governmental Organization)	United Kingdom	2011	With the report disclosure by ActionAid about tax havens held by FTSE100 companies, examines the reaction of the markets and related costs.
Offshore financial activity and tax policy: Evidence from a leaked data set	Caruana-Galizia and Caruana-Galizia (2016)	International Consortium of Investigate Journalists	Singapore and British Virgin Islands (34.953 entities)	1995-2008	Measures the Tax Savings Directive effect relatively to the growth of EU-owned offshore entities. The hypothesis tested shows that the implementation of the Directive led to a substitution of EU-owned entities by non-EU-owned entities in offshore.

The determinants of tax haven FDI	Jones and Temouri (2016)	ORBIS by Bureau Van Dijk	12 OECD Countries (14.209 multinationals)	2002-2010	Examines the factors which determine the decision by multinational enterprises to set up subsidiaries in tax havens.
What drives emerging economy firm acquisitions in tax havens?	Chari and Acikgoz (2016)	SDC Platinum	10 Countries (EE)	2000	Studies the international expansion behavior of firms in emergent economies (EE) and discovers that countries or territories known as tax havens are a prime destination for EE internationalization.
Determinants of tax haven utilization: Evidence from Australian firms	Taylor et al. (2015)	Annual Reports	Australia (200 firms)	2006-2010	Examines the key determinants of tax haven utilization based on a sample of 200 publicly listed Australian firms.
Tax Havens and Effective Tax Rates: An Analysis of Private versus Public European Firms	Jaafar and Thornton (2015)	Amadeus by Bureau Van Dijk	14 European Countries	2001-2008	Studies the impact of tax haven operations on the effective corporate tax burden in publicly listed and privately held firms based in Europe.
Tax havens and the production of offshore FDI: An empirical analysis	Haberly and Wójcik (2015)	IMF dataset	Offshore Countries	2010	Analyzes the political, geographical and historical determinants of offshore foreign direct investment (FDI).

International profit-shifting out of developing countries and the role of tax havens	Janský and Prats (2015)	ORBIS by Bureau Van Dijk	India (1.525 multinationals)	2010	Investigates: (i) the connection between tax havens and profit shifting from developed countries; (ii) the link between tax havens and tax evasion and avoidance by multinational firms.
The pitfalls of using foreign direct investment data to measure Chinese multinational enterprise activity	Sutherland and Anderson (2015)	Stock Exchange of Hong Kong, Singapore and NYSE/NASDAQ	China (100 multinationals)	2010	Explores how Chinese multinational enterprises use tax havens and offshore financial centers.
Income Shifting Incentives and Tax Haven Utilization: Evidence from Multinational U.S. Firms	Richardson and Taylor (2015)	Compustat	USA (286 multinationals)	2006-2012	Examines the association between a series of income shifting incentives (multinationals, transfer pricing, thin capitalization, intangible assets and tax haven use).
Elite behaviour and citizen mobilization	Kolstad and Wiig (2015)	IDEA[16] and IMF CPIS[17]	65 Countries	1998-2012	Analyzes the relation between the political participation of citizens and the self-serving elite behavior.
Multinationality, tax havens, intangible assets, and transfer pricing aggressiveness: An empirical analysis	Taylor et al. (2015)	Compustat	USA (286 multinationals)	2006-2012	Examines the joint and individual effects of multinationals, tax havens and intangible assets on transfer pricing aggressiveness.

[16] IDEA - International Institute for Democracy and Electoral Assistance
[17] International Monetary Fund (IMF) Coordinated Portfolio Investment Survey (CPIS)

The economic geography of offshore incorporation in tax havens and offshore financial centres: The case of Chinese MNEs	Buckley et al. (2015)	US Security Exchange Commission EDGAR	China (72 firms)	1999-2010	The growth of FDI on emerging markets has become a modeling force in international economic geography; as such the authors designed and built links between the geography of money and finance and international business.
With which countries do tax havens share information?	Bilicka and Fuest (2014)	Website Tax Information Exchange (OECD)	565 TIEAs	2008-2011	Investigates the chosen partners by tax havens to sign tax information exchange agreements; analyzes if agreements are done with countries with which they possess strong economic relation or if they avoided doing so, in order to maintain the information exchange ineffective.
Tax evasion and Swiss bank deposits	Johannesen (2014)	International Locational Banking Statistics	41 Jurisdictions[18]	1995-2008	Estimates how households with non-declared offshore deposits reacted to the Tax Savings Directive.
A journey from a corruption port to a tax haven	Hebous and Lipatov (2014)	German MiDi data	Germany	1996-2008	Design of a model with the tax havens that attract corporate income generated in corrupted countries.

[18] OECD countries and Offshore Financial Centers.

Earnings, institutional investors, tax avoidance, and firm value: Evidence from Taiwan	Chang et al. (2013)	Taiwan Stock Exchange (TSE)	Taiwan (336 firms)	2000-2005	Examines the valuation of earnings from China and Taiwan by national and foreign investors. Comparison of the valuation of firm earnings reported in tax havens and non-tax havens.
The Economic Growth Effect of Offshore Banking in Host Territories: Evidence from the Caribbean	Butkiewicz and Gordon (2013)	Bank for International Settlements	Caribbean	1976-2008	Study that provides econometric information about the effect of the size of the offshore banking sector in the growth of the Caribbean Islands national income.
International Corporate Tax Avoidance Practices: Evidence from Australian Firms	Taylor and Richardson (2012)	Australian Stock Exchange (ASX)	Australia (203 firms)	2006-2009	Analyzes the corporate tax avoidance practices of 203 publicly listed Australian firms.
Responsibility in Paradise? The Adoption of CSR Tools by Companies Domiciled in Tax Havens	Preuss (2012)	Website of 27 firms from Bermuda and Cayman Islands	Bermuda and Cayman Islands (27 firms)	2008	Executes an ethical evaluation of tax havens applying influent theories about ethics. Analyzes the use given to Corporate Social Responsibility tools by the biggest companies headquartered in 2 offshore financial centers.

Where do firms manage earnings?	Dyreng et al. (2012)	Compustat	USA (2.067 firms)	1994-2009	Examines where firms manage earnings. As a result obtains that firms with wide foreign operations in weak rule of law countries have more earnings management than firms with subsidiaries located in countries where the rule of law is strong.
Do windfall non-debt tax shields from acquisitions affect corporate debt issues?	Ghosh et al. (2011)	SDC US Merger and Acquisitions; Compustat	USA	1987-2003	Identifies the tax synergies from acquisitions when the acquiring firm obtains tax shield.
Money launderers and tax havens: Two sides of the same coin?	Schwarz (2011)	Bureau of International Narcotics and Law Enforcement Affairs	33 Tax Havens Countries	2000	Investigates if tax havens have incentives to maintain low regulatory standards in order to attract capital from money laundering activities.
Financial incentives to enhance capital investments in the emerging market economy of South Africa	Cardoso et al. (2011)	Questionnaires (Executive Managers)	South Africa (17 firms)	2008	It is intended with the research to improve the financial decision-making relative to financial incentives and thereby increase the capital investments in emerging economies.

Tax avoidance and corporate social responsibility: You can't do both, or can you?	Preuss (2010)	Codes of Conduct in Websites	Bermuda and Cayman Islands (27 firms)	2008	Analyzes if firms that use tax havens as their headquarters, with the intent of tax avoidance, make socially responsible actions.
Which countries become tax havens?	Dharmapala and Hines (2009)	Hines and Rice (1994, p,78)	41 Jurisdictions[19]	1996-2004	Analyzes the determining factors for a country to become a tax haven.
Why are countries reluctant to exchange information on interest income? Participation in and effectiveness of the EU Savings Tax Directive	Schwarz (2009)	German Revenue data	Germany	2005-2006	Examines why countries are reluctant to exchange information on interest income after the entry into force of the Tax Savings Directive.
Financial flows and treasury management firms in Ireland	Stewart (2008)	Irish Registered Legal Entities	Ireland (46 firms)	1998-2005	Examines the role of treasury management firms in intra-group and intra-country financial flows. Quantifies the flows in order to identify the financial strategies adopted by the subsidiaries.

[19] 41 Jurisdictions defined as tax havens according to the OECD definition.

3.3. Study variables definition

The present study is classified as a quantitative analysis, however that does not mean that a qualitative analysis was not performed. Anderson and Widener (2006), refer that even when quantitative data are central in the research, the qualitative data is also present due to the fact that they are required for understanding the data. Table 4 exhibits the variables used in the characterization and analysis of the articles.

Table 4 – Variables and categories used in the empirical study.

Categories	
Qualitative	**Quantitative**
Article name	Article identification
Keywords	Year of publication
Journal	Number of authors
Name of the authors and type of authorship	
Geographical and institutional affiliation	
Data collection method	

Considering the specific goals stated for this study, and after reading the articles, two databases were built in order to analyze the variables relative to the researchers profile and articles content.

3.3.1. Database of the researchers characterization

A database was built in Excel with the purpose of analyzing the researcher's profile, using the following variables: name of the authors, number of authors, type of authorship, geographical and institutional affiliation.

In regards to the "name of the authors" variable, the necessary number of lines were created according to the article in question, thus, in the cases that the article had more than one author, an equivalent number of lines were introduced. Regarding the "type of authorship" a distinction was made between individual and collective authorship, i.e., the articles with one author were characterized as individual authorship and the rest as collective authorship. In the "number of authors" variable, the quantitative measure used was a value of 1 or more, depending on the quantity of authors on the article.

In relation to the analysis of the variable “institutional affiliation”, the associated institution information of each author was collected, corresponding to more than one institution in some articles with various authors. The Lukka and Kasanen (1996) method was used in the “geographic/nationality affiliation”, identifying and assuming the country of the author by the institution he represented at the time the article was published.

3.3.2. Database of the article content characterization

For the analysis of the article content database, the defined variables were as follows: article identification number, article name, journal and year of publication, keyword and data collection method.

In regards to the “article identification number” variable, the number introduced was the corresponding one in the Scopus search list and the “year of publication” identified as the year the article was published.

Finally, in the “data collection method” variable, articles were classified in one of four categories: database, literature review, exploratory and case study, based on the analysis done on the articles content.

3.4. Data processing

Using Scapens and Bromwich (2001; 2010) method, this study had the reading of the articles of the sample as a basis, in order to build the database. Although the authors considered this data collection method as subjective, they also find that this methodology provides information about the articles in a diversified way.

Lukka and Kasanen (1996) method was adopted in the variable analysis present in – 4.1.3. Geographic affiliation – assuming the author´s country/continent by the University he represented in the published article.

4. RESULTS

In this chapter the empirical study is developed using the variables previously defined and mentioned.

This section is divided in two parts; in the first part the results of the researchers' characterization database analysis are presented and in the second part the article content characterization database analysis is exhibited.

4.1. Researchers characterization

Presented in this section are the results obtained from the analysis performed on the researchers' characteristics and profile, as that was one of the specific goals established for this study. The variables analyzed were as follows: type of authorship, author's productivity, geographic affiliation, Universities contribution and relation between the authors.

4.1.1. Type of authorship

Two distinctive groups were created in the type of authorship analysis: individual and collective authorship. The first type comprises articles with only one author and the second includes articles with two or more authors. From the analysis of the 36 articles, was found that they were published by 65 different authors, and that collective authorship is the most common in the sample.

In Table 5 the results from the type of authorship analysis are presented, showing that 22,22% (n=8) of the analyzed articles are of individual authorship and 77,78% (n=28) are of collective authorship. Thereby, publications with more than one author represent the majority of the sample, concluding that collective authorship is prevailing in the analyzed tax haven research.

Table 5 - Type of authorship.

Type of authorship	Articles Nr.	%
Individual	8	22,22%
Collective	28	77,78%
Total	**36**	**100,00%**

Carrying out a more detailed analysis of the number of authors by article, it is shown in Table 6 that the articles published by two authors are the most frequent, representing a frequency of 16 articles (44,44%). The articles published by three authors constitute 25,00% (n=9) of the sample, and the articles with four authors have the lowest share with 8,33%.

Table 6 – Number of authors by article distribution.

	Articles nr.	%
Articles with one author	8	22,22%
Articles with two authors	16	44,44%
Articles with three authors	9	25,00%
Articles with four authors	3	8,33%
Total	**36**	**100,00%**

Hence, it is concluded that, in the sample, articles published by two authors are the most frequent and publications with four authors the less recurring.

4.1.2. Author's productivity

For the empirical research in tax havens between the period of 2008 and 2018, 65 authors contributed in the selected sample of 36 articles.

From the set of contributing researchers, it is observable in Figure 7 that there is a higher number of authors that participated in only one article (n=55) when compared to the number of authors that published more than one article (n=10).

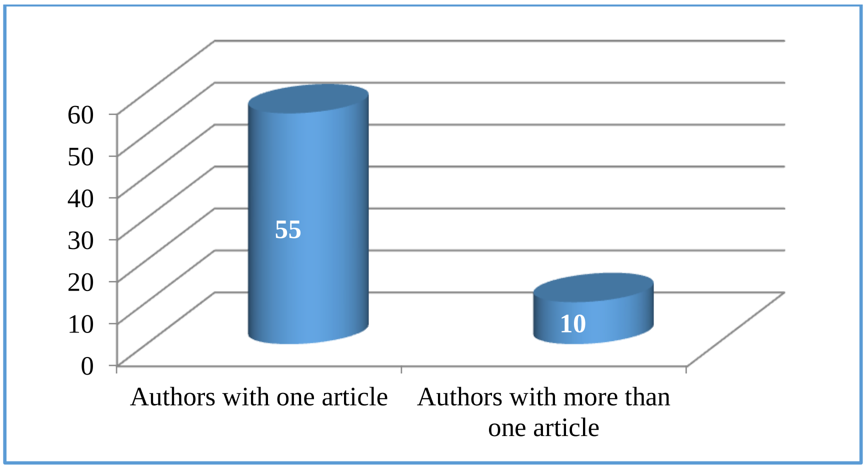

Figure 7 - Productivity of the authors by article.

A more detailed analysis is displayed in Table 7, which reveals that the most productive authors were Grant Richardson and Grantley Taylor, both with four published articles. The remaining authors in the table have a frequency of two publications in the set of articles in the sample. Appendix 5 presents a table with the authors that contributed with only one article for the research.

Table 7 – Productivity of the authors with more than one published article.

Authors	Frequency
Grant Richardson	4
Grantley Taylor	4
Alex Cobham	2
Chris Jones	2
Dylan Sutherland	2
Ivar Kolstad	2
Lutz Preuss	2
Peter Schwarz	2
Petr Janský	2
Yama Temouri	2

4.1.3. Geographic affiliation

Geographic affiliation analysis was made on the basis of the Lukka and Kasanen (1996) method, assuming the country/continent of the author by the University he represented in the published article.

In regards to geographic affiliation in terms of continent distribution, all continents participated in this sample. Presented in Figure 8 is the percentage ratio of the contributions from each continent to the empirical research.

The European continent holds the main participation of affiliated authors in the sample with 43,66% (n=31). The American continent also has a pronounced presence with a contribution of 30,99% (n=22), followed by Oceania with 14,08% (n=10). The Asiatic continent is ranked fourth with 9,86% (n=7) and lastly Africa with the smallest participation of affiliated authors in the sample of 1,41% (n=1).

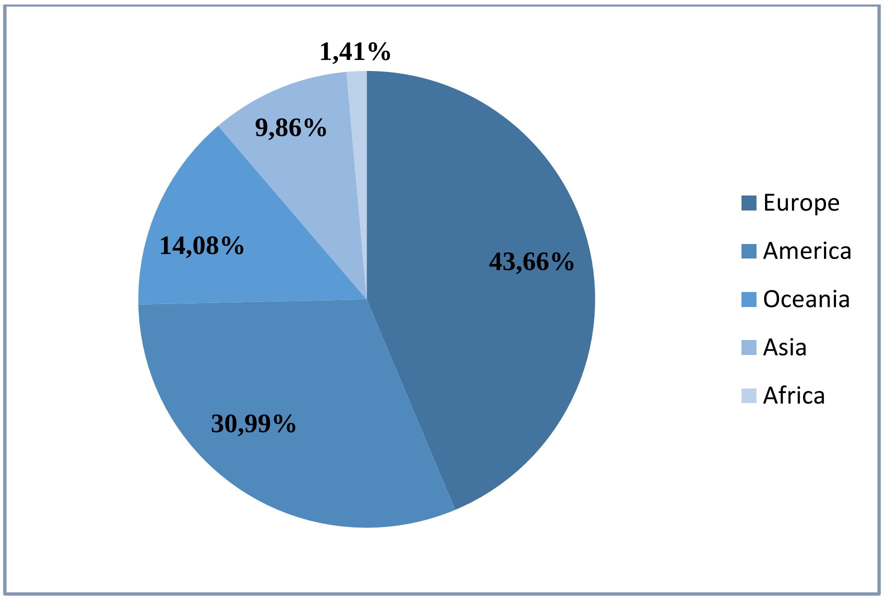

Figure 8 – Author affiliation by continent.

In order to make a closer analysis of the countries that contributed the most for the research in their respective continents, Table 8 was built. Observing the mentioned table it is possible to identify that in the European continent, the country that contributed the most was the United Kingdom with 23,94% (n=17) of the authors, followed by Germany with 7,04% (n=5), Norway with 4,23% (n=3) and the Netherlands with 2,82% (n=2). The Czech Republic, Denmark, France and Ireland contributed with one author.

In regards to the continent with the second most contributions – the American continent – 29,58% (n=21) of the authors were from the United States of America and only one from Canada.

Oceania occupies the third place, with only Australia contributing for the study with ten affiliated authors. It is worthy to note that even though this continent is ranked third in the table, the two authors with the highest number of participations in the sample are from Australia (Table 7).

Relatively to the Asian continent, there is some dispersion among the authors. Taiwan was the country that contributed the most with two affiliated authors, and the remaining countries with one author: China, Hong Kong, South Korea, Turkey and the United Arab Emirates.

Lastly, Africa was the continent with the lowest participation, contributing with one affiliated author in South Africa.

Table 8 – Distribution of affiliated researchers by country and continent.

Country/Continent	Quantity	Percentage
Europe		
United Kingdom	17	23,94%
Germany	5	7,04%
Norway	3	4,23%
Netherlands	2	2,82%
Czech Republic	1	1,41%
Denmark	1	1,41%
France	1	1,41%
Ireland	1	1,41%
	31	**43,66%**
America		
USA	21	29,58%
Canada	1	1,41%
	22	**30,99%**
Oceania		
Australia	**10**	**14,08%**
Asia		
Taiwan	2	2,82%
China	1	1,41%
Hong Kong	1	1,41%
South Korea	1	1,41%
Turkey	1	1,41%
United Arab Emirates	1	1,41%
	7	**9,86%**
Africa		
South Africa	**1**	**1,41%**
Total	**71**	**100,00%**

It is therefore concluded, through Table 8, that the Asian continent holds the biggest author dispersion, followed by the European Continent. Analyzing by country, the United States of America (n=21), the United Kingdom (n=17) and Australia (n=10) are the ones that stand out in the sample.

The obtained results are consistent with the Scapens and Bromwich (2010) argument, since they demonstrate an existent supremacy by European authors with higher focus in the United Kingdom, but also a good participation from North Americans, and despite the fact that the production of articles by the USA has declined, it has been compensated by the increase in contributions from Australian authors. Another aspect mentioned by the authors and verified by this study is the growing number of European and Asiatic authors, even though English is not their first language, justified by the increase in editorial services provided by native English speakers.

4.1.4. Universities and research centers contribution

In this section are analyzed the most significant universities and research centers affiliated with the authors in the study. From the thirty six articles in the sample, it was found that a total of fifty six universities contributed to the research, being that nine of them had a frequency higher than one. Table 9 presents the institutions with the greatest participation in the sample.

Table 9 – Affiliated institutions with the greatest contribution.

University/Country	Frequency
Australia	
Curtin University	5
University of Adelaide	4
United Kingdom	
University of Oxford	3
Aston University	2
King's College London	2
University of Durham	2
University of London	2
Tax Justice Network	2
Norway	
Chr. Michelsen Institute	2

The table analysis shows evidence that Curtin University and the University of Adelaide were the ones that contributed the most, with five and four authors respectively. These results are in line with the ones referred to in “4.1.2. Author’s productivity”, in which the two most productive authors were affiliated with Australian universities at the time the articles were published.

The United Kingdom presents six institutions with a frequency higher than one author, highlighting the University of Oxford with three authors. The remaining four universities and one research center contributed with two authors each.

Finally, Norway contributed through the Chr. Michelsen Institute with a frequency of two authors, which is relevant since it is a country in which English is not the first language.

4.1.5. Relation between authors

In the selected sample, ten of the sixty five authors were the most productive, contributing with two or more articles (Table 7). In order to analyze the relation between authors, bibliographic maps were built using the VOSviewer tool, and are exhibited in Figure 9 and Figure 10. These maps present the most productive authors by the size of the circles and show the proximity of themes discussed by authors through the colors and distance between the lines.

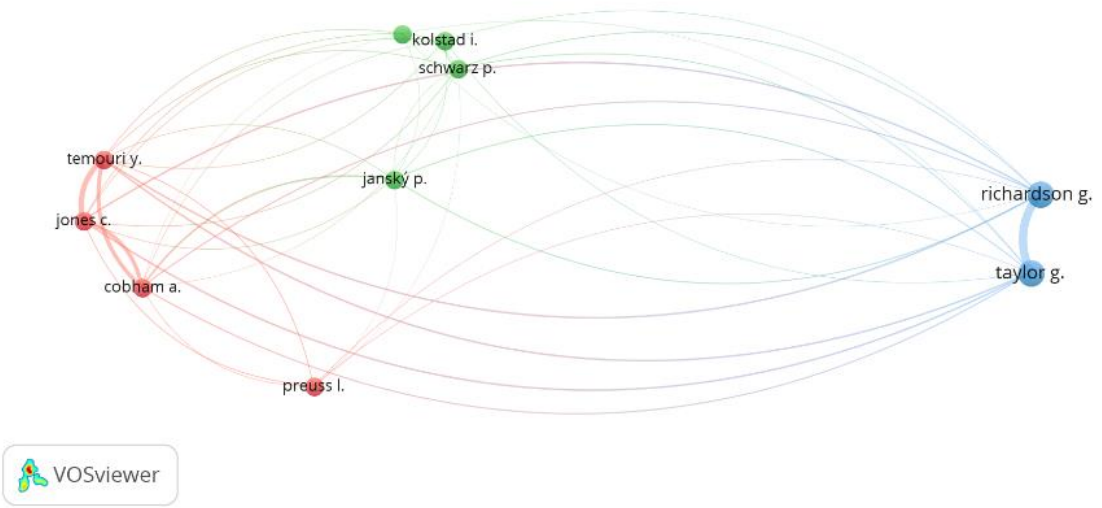

Figure 9 – Analysis of the relation between the most productive authors.

Analyzing Figure 9 the most productive authors were Grant Richardson and Grantley Taylor (n=4) and the remaining circles, which present an identical size, contributed in the same proportion (n=2).

In the figure there are clearly three predominant colors which reflect three different clusters, showing the relation between the authors. In blue, the relation between Grant Richardson and Grantley Taylor that jointly published several articles, and in red the relation among Yama Temouri, Chris Jones and Alex Cobham, with the first two having a closer connection due to the fact that they have more joint publications. Lutz Preuss is also part of this cluster, but a little distant since his articles, in the sample, are characterized as individual authorship. Lastly, in the green cluster are included the following authors: Dylan Sutherland, Ivar Kolstad, Peter Schwarz and Petr Janský, with the last referenced author placed more at the center and connected to all other nine authors.

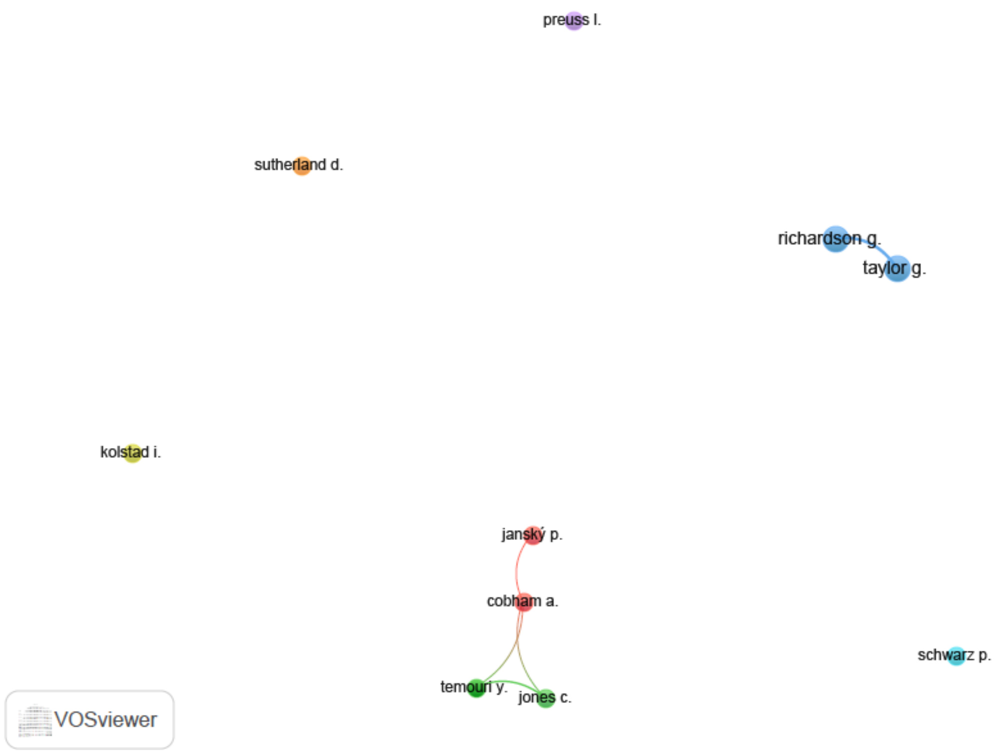

Figure 10 - Analysis of the relation between the most productive authors.

Figure 10 illustrates the ten authors divided in seven clusters, represented by seven different colors. The colors and image disposition clearly show the publishing relationships among the most productive authors. Although authors such as Dylan Sutherland, Ivar Kolstad, Peter Schwarz and Lutz Preuss contributed with two articles each, they did not do it in partnership with any of the remaining authors and for that reason they are represented individually in the map. The links associated with Alex Cobham are noteworthy because they show that out of the two articles he published one was together with Chris Jones and Yama Temouri (green link) and the other with Petr Janský (red link).

4.2. Article content characterization

The article content analysis was established as a specific goal for this study, with the following variables being analyzed in this section: journal and year of publication, most researched themes and most cited articles.

4.2.1. Article distribution by year and journal

As mentioned in “3.2. Sample definition”, the basis for this study is the analysis of thirty six articles produced between the years 2008 and 2018. The number of articles published annually is presented and listed in Table 10.

Table 10 – Distribution of articles by year.

Year	Nr of published articles	%
2008	1	2,78%
2009	2	5,56%
2010	1	2,78%
2011	3	8,33%
2012	3	8,33%
2013	2	5,56%
2014	3	8,33%
2015	9	25,00%
2016	3	8,33%
2017	4	11,11%
2018	5	13,89%
Total	**36**	**100,00%**

The analysis of the table show an increase and decrease in the empirical research on tax havens, with the highest number of publications being registered in 2015 with nine articles, which corresponds to a quarter of all the articles in the study (25,00%). This is partially justified by the publication of almost all articles produced by the most productive authors in the sample (n=3). It is also important to mention that, in 2015, BEPS and emerging economies are also discussed frequently in the articles (n=3). In

2017 and 2018 four and five articles were published, respectively, and the years 2011, 2012, 2014 and 2016 had the contribution of three annual articles.

The graphic from Figure 11 presents the evolution of the number of published articles across the analyzed time period, easily identifying that the years with fewer publications were 2008 and 2010 with one article and 2009 and 2013 with two published articles.

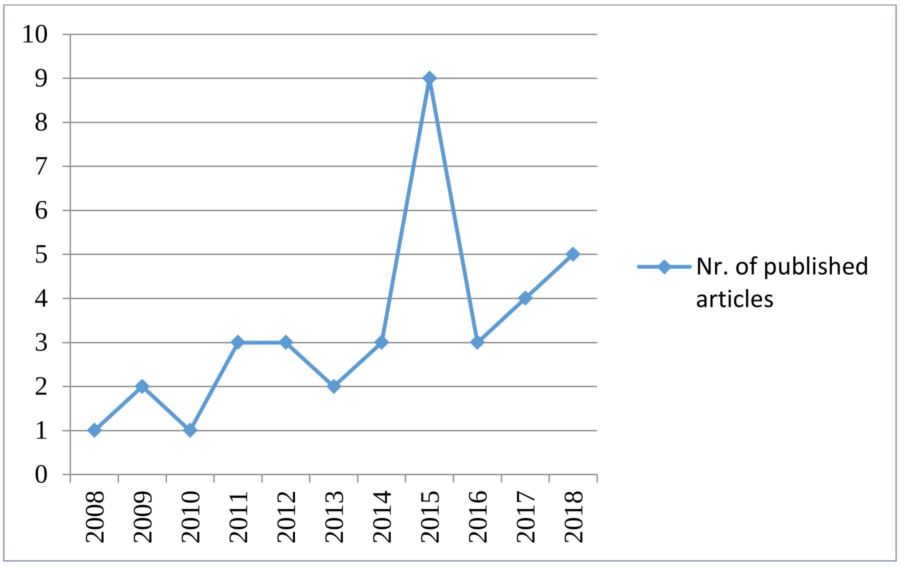

Figure 11 – Evolution of the number of published articles by year.

As mentioned in “3.1. Data collection procedure”, only scientific articles published in English were included in the selected sample, excluding conference papers and book chapters. From the analysis of the articles it was found that a total of twenty seven different journals are present in the sample, as shown in Table 11.

Taking into account the presented table, the journal with the most published articles was the International Journal of Accounting with three articles (8,33%), followed by the following journals: International Review of Law and Economics, International Tax and Public Finance, Journal of Economic Geography, Journal of Public Economics, Journal of World Business, Review of Accounting Studies and Working Paper - Chr. Michelsen Institute, with a frequency of two publications each.

Table 11 – Distribution of articles by journal.

Journal	Nr. of articles	%
International Journal of Accounting	3	8,33%
International Review of Law and Economics	2	5,56%
International Tax and Public Finance	2	5,56%
Journal of Economic Geography	2	5,56%
Journal of Public Economics	2	5,56%
Journal of World Business	2	5,56%
Review of Accounting Studies	2	5,56%
Working Paper - Chr. Michelsen Institute	2	5,56%
Accounting and Finance	1	2,78%
Accounting Forum	1	2,78%
China Quarterly	1	2,78%
Corporate Governance	1	2,78%
Corporate Ownership and Control	1	2,78%
Development Policy Review	1	2,78%
Emerging Markets Finance and Trade	1	2,78%
Journal of Business Ethics	1	2,78%
Journal of Business Research	1	2,78%
Journal of Comparative Economics	1	2,78%
Journal of Corporate Finance	1	2,78%
Journal of International Accounting Research	1	2,78%
Journal of International Accounting, Auditing and Taxation	1	2,78%
Journal of International Business Studies	1	2,78%
Journal of International Development	1	2,78%
Journal of Public Policy	1	2,78%
Management Sciences	1	2,78%
Managerial Finance	1	2,78%
World Development	1	2,78%
Total	**36**	**100,00%**

The remaining journals in the table and not yet referenced, published only one article, representing 70,37% of the journals in the study. In order to facilitate the visualization of this point of analysis, Figure 12 presents a chart with the percentage distribution of the journals that published only one article and the journals with two or more published articles.

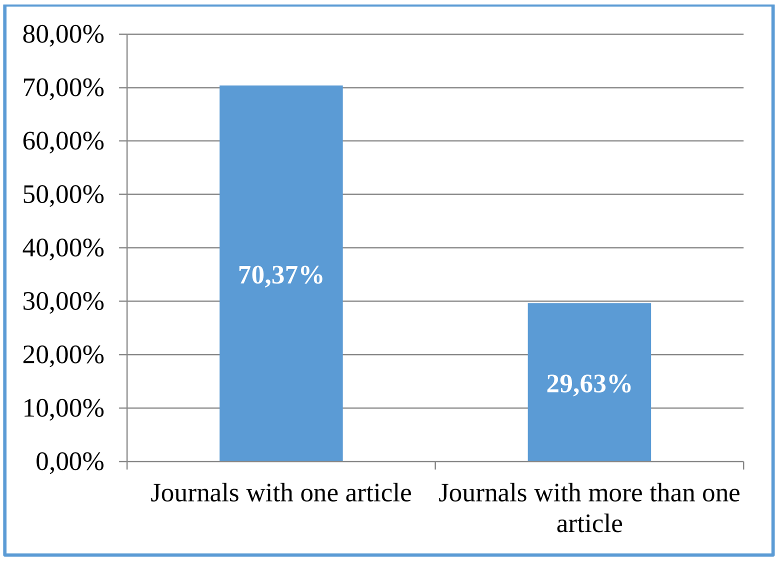

Figure 12 – Distribution of articles by journal.

4.2.2. Most researched themes

For the analysis of the most researched themes, the keywords utilized by the authors in the articles were taken into account and a map was built using the VOSviewer tool. The density map shown in Figure 13 allows for the identification of the most discussed themes, with the size of circles representing higher or lower theme discussion.

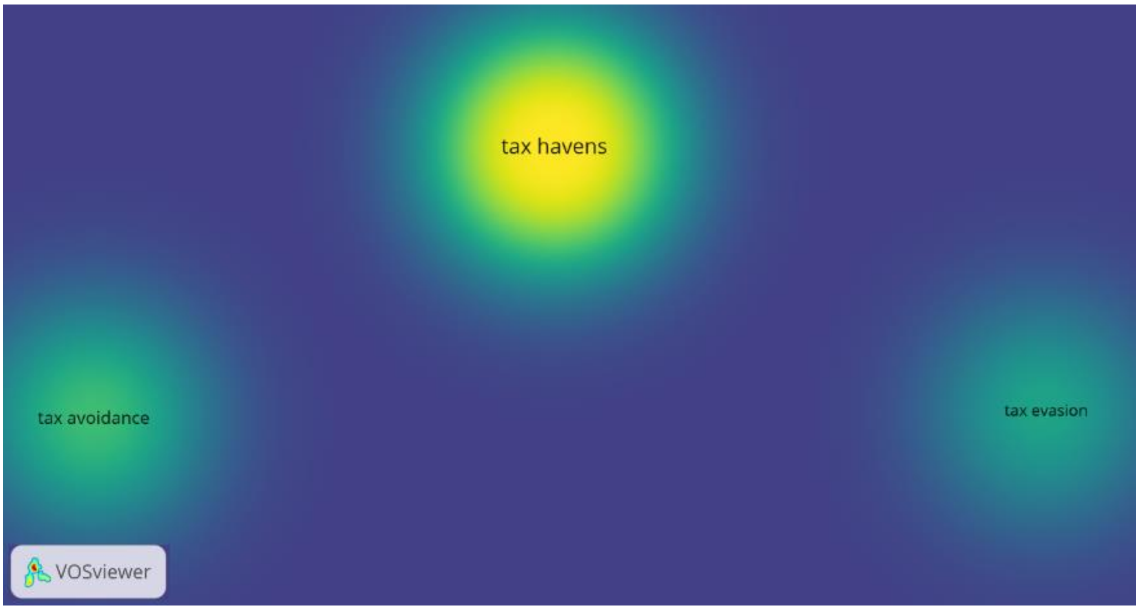

Figure 13 – Most researched themes.

With the analysis of the density map, it is possible to note that the most used keyword was tax havens, being present in all of the articles in the sample. This is an expectable outcome, since as mentioned in the methodology, the sample selection of articles in

Scopus was made using the keyword tax havens. The second most researched thematic was tax avoidance with a frequency of seven articles. Lastly and with a smaller circle, the keyword tax evasion is obtained from the figure, appearing in four articles. It is thus concluded that themes such as tax avoidance and tax evasion are strongly related to tax havens, due to the fact that the authors associate tax havens to tax avoidance and evasion practices.

4.2.3. Most cited articles

In order to identify the articles with the most citations, bibliographic network maps were built in this section. As previously mentioned, the size of the circles determines the number of citations and the links establish the relation between the articles, which can be higher or lower according to the distance between them.

The most cited articles, by the analysis of Figure 14, were: “Which countries become tax havens?” published by Dharmapala and Hines (2009), “Tax havens and the production of offshore FDI: An empirical analysis” published by Haberly and Wójcik (2015), “The determinants of tax haven FDI” published by Jones and Temouri (2016) and “International Corporate Tax Avoidance Practices: Evidence from Australian Firms” published by Taylor and Richardson (2012). Although less cited, articles published by Taylor et al. (2015), Taylor and Richardson (2012) and Schwarz (2011) possess a relevant number of citations as well.

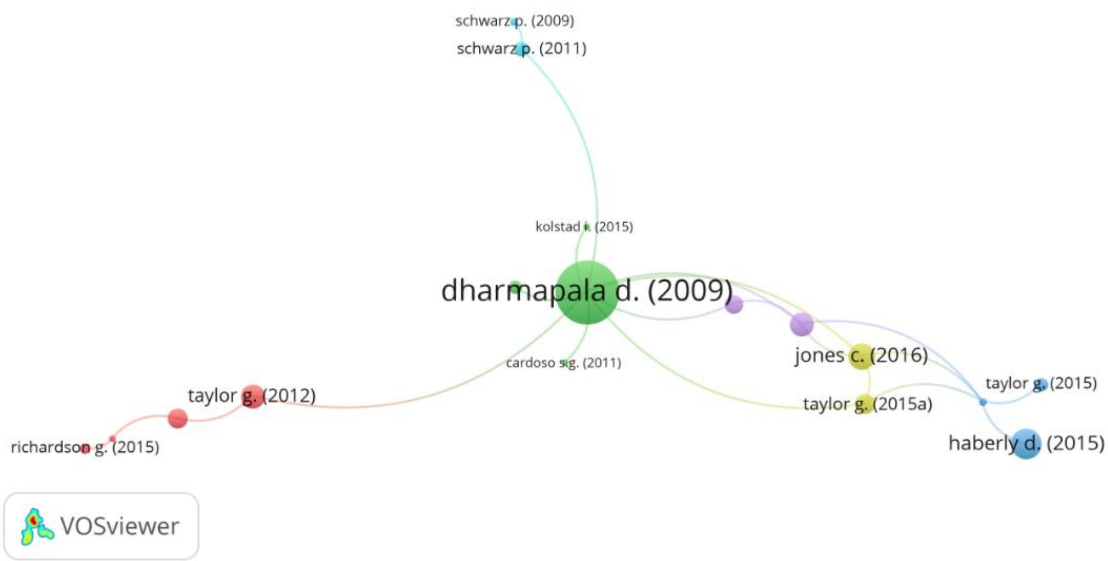

Figure 14 - Most cited articles.

Figure 15 also shows a map of the most cited articles, but in a bibliographic coupling approach, i.e., the most cited articles are measured and identified when two studies make reference to a third work in common in their bibliographies. Consequently, the coupling connection will be higher when there are more citations in common, being visible in the figure that the most cited article is “Which countries become tax havens?” published by Dharmapala and Hines (2009). Closer articles tend to cite the same publications, which does not happen when they are further apart, and colors identify clusters of closely related publications. This type of analysis is important for researchers since it allows them to easily find related studies.

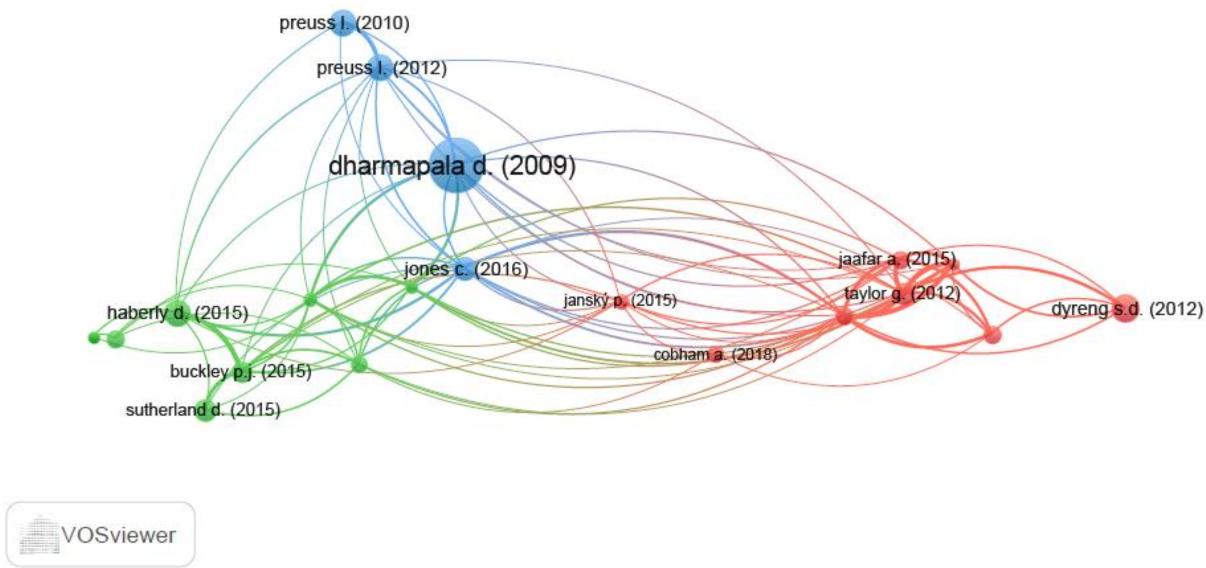

Figure 15 – Most cited articles (Bibliographic coupling).

5. CONCLUSION

5.1. Goals and results

With globalization, tax havens have become more important and the opportunities of profit shifting to low tax jurisdictions by multinational enterprises have increased. With the beginning of the crisis in 2008 and the exposure of several financial scandals, the true dimension of tax evasion in tax havens was revealed, which prompted decision makers to start a fight against tax avoidance and evasion by taking a closer look at tax havens.

Scientific articles are the main form of research disclosure, noting that in the last few years a higher number of publications have been made available about tax havens. In order to contribute to the knowledge of the research state, an analysis was made on the empirical research produced between the years 2008 and 2018, through scientific articles, on tax havens establishing it as main goal of the present study. In order to achieve this goal, an analysis of the selected sample was performed in order to characterize the investigators and the content of their articles, which were established as the specific objectives for this study.

For the selection of the sample Scopus was the database chosen and “tax havens” was the keyword used with a time period of 10 years, including only English scientific articles and excluding conferences and book chapters. A total of 82 articles were found in the parametric search done on Scopus, but since one of them was not available, a total of 81 articles were considered as the eligible sample. Subsequently, a database was built in order to identify the methodology present in each article and for the analysis of the variables associated with the researchers and the content of the articles. Considering the main goal established and through this analysis, it was found that the “empirical research” methodology was present in 36 articles, which represent the selected sample of the study. In order to provide an accurate and complete analysis of the collected data the tools Excel and VOSviewer were used.

In regards to the first specific goal, the results show that collective authorship is predominant, representing 77,78% of the sample, with articles published by two authors being the most frequent (16 articles). Out of the 65 researchers present in the sample, only 15,38% participated in more than one article. The authors that stood out the most were Grant Richardson and Grantley Taylor, both with a frequency of four published articles. Geographically, the country/continent of the author was assumed by the University they represented in the published article, with Europe being the continent with the highest contribution (43,66%) and the United States of America the country with most prominence with 21 affiliated authors. The continent with the least participation was Africa with one affiliated author from South Africa. Regarding the contributions from universities and research centers, Australian universities have the most affiliated authors, namely Curtin University and the University of Adelaide with 5 and 4 authors, respectively.

In relation to the analysis of the content of the articles, it was found that the thirty six articles from the sample were published in twenty seven different journals, and the year with the highest number of publications was 2015, representing 25% of the selected sample. The journal with the most published articles was the International Journal of Accounting, participating with the publication of three scientific articles. It was concluded that the publication of only one article by the journals was the most frequent, representing 70,37% of the total number of journals analyzed. In regards to the themes most addressed by the authors, it was found that in addition to tax havens, both tax avoidance and tax evasion were the most discussed. Lastly, articles such as Dharmapala and Hines (2009), Haberly and Wójcik (2015) and Jones and Temouri (2016) were the most cited ones, thus contributing to other studies.

The research carried out by the authors in the period from 2008 to 2018 was also analyzed, noting a clear definition and identification of tax havens, the role they play, the use given to them and the techniques utilized by firms to reduce their tax burden. Globalization has enabled multinationals to make greater use of tax havens, allowing them to keep their presence in countries with high taxes and use techniques to shift profits to low or nil tax jurisdictions, resulting in the erosion of the tax base. It should be noted that governments are sovereign in the politics they adopt and in the taxes they implement and sometimes in order to attract foreign investment they decide to lower their taxes, which makes it desirable for companies seeking to reduce their tax burden. Tax avoidance, tax evasion and tax competition practices by multinational enterprises, combined with the recent crisis, have created greater pressure from governments for measures to be taken by governmental and non-governmental organizations to combat tax havens. According to several studies, tax havens are characterized as wealth jurisdictions with connections to OECD countries, which may justify the fact that measures adopted before the financial crisis of 2008 have proven to be less effective. The global economic crisis revealed itself as a turning point and even though international tax policies and sanctions for non-compliance with the standards were introduced, there is still work to be done. The OECD and the G20 are leading recent projects such as BEPS and plan to implement future ones to address tax challenges arising from digitalization.

This study contributes to the literature, by analyzing the role played by tax havens in modern economy, and compiling the information found on the empirical research made about this topic between the years 2008 and 2018. The areas of study most discussed by researchers were analyzed, and a characterization of the researchers and published content was made. This study was also intended as a response to the research appeal on tax havens made by Hanlon and Heitzman (2010), to contribute to the state of research in this subject and to assist other researchers in future studies.

5.2. Study limitations

There are three limitations to this study that can be highlighted. Firstly, the database was built manually through the reading and analysis of the articles, leading to some subjectivity in the characterization of the variable – data collection method.

Secondly, since no other similar investigations were found, a result comparison was not possible.

Lastly, a convenience sample was selected for this study, which may compromise the obtained results. The sample was characterized by the existence of diversified approaches to tax havens, which made it difficult to compare the various published articles.

5.3. Future research suggestions

Taking into account the results of the study, some suggestions for future investigations are presented. As a first suggestion, the content provider could be extended, for example by indexing the Social Sciences Citation Index in addition to Scopus. The research could be also expanded to non-indexed journals in order to compare them to the studies published in indexed journals.

As a second suggestion, a study similar to the one presented could be carried out, but with a longer period of analysis, in order to better observe the evolution of research in this area.

Considering the limitations found in comparing studies due to the fact that the sample presents distinctive subjects associated with the tax havens theme, it is suggested that in future works another keyword such as tax avoidance is used in addition to tax havens, since they are the most frequently found in this research.

Finally, an analysis by country/continent of the most discussed themes by the researchers could be performed, in order to identify if there is relation between the topics addressed and the geographical origin of the affiliated authors.

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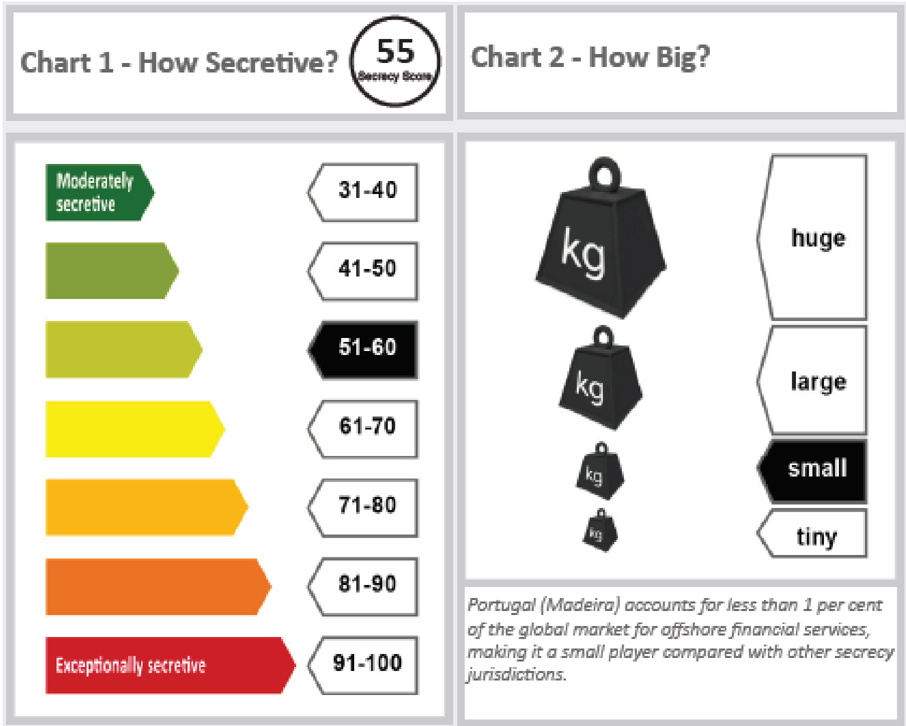
7. APPENDICES

Rank	Jurisdiction	Secrecy Score	Rank	Jurisdiction	Secrecy Score	Rank	Jurisdiction	Secrecy Score
1	Switzerland	76,45	39	Marshall Islands	72,93	76	Slovakia	54,90
2	USA	59,83	40	Philippines	65,38	77	Seychelles	75,20
3	Cayman Islands	72,28	41	Italy	49,48	78	Guatemala	73,10
4	Hong Kong	71,05	42	Isle of Man	63,58	79	Croatia	59,28
5	Singapore	67,13	43	Ukraine	69,15	80	Greece	57,88
6	Luxembourg	58,20	44	Australia	51,15	81	Samoa	77,60
7	Germany	59,10	45	Norway	51,58	82	Mexico	54,38
8	Taiwan	75,75	46	Liechtenstein	78,28	83	Gibraltar	70,83
9	United Arab Emirates (Dubai)	83,85	47	Romania	65,53	84	Curacao	74,80
10	Guernsey	72,45	48	Barbados	73,85	85	Venezuela	68,53
11	Lebanon	72,03	49	Mauritius	72,35	86	US Virgin Islands	73,08
12	Panama	76,63	50	South Africa	56,10	87	Turks and Caicos Islands	76,78
13	Japan	60,50	51	Poland	57,35	88	Bolivia	80,35
14	Netherlands	66,03	52	Spain	47,70	89	Bulgaria	54,18
15	Thailand	79,88	53	Belgium	44,00	90	Belize	75,18
16	British Virgin Islands	68,65	54	Sweden	45,48	91	Brunei	84,05
17	Bahrain	77,80	55	Latvia	57,38	92	Monaco	77,50
18	Jersey	65,45	56	Anguilla	77,50	93	Estonia	50,85
19	Bahamas	84,50	57	Indonesia	61,45	94	Maldives	81,08
20	Malta	60,53	58	New Zealand	56,23	95	Ghana	61,75
21	Canada	54,75	59	Costa Rica	68,65	96	Dominica	77,33
22	Macao	68,25	60	Chile	61,60	97	Lithuania	46,78
23	United Kingdom	42,35	61	Denmark	52,50	98	Antigua and Barbuda	86,88
24	Cyprus	61,25	62	Paraguay	84,33	99	Montenegro	63,15
25	France	51,65	63	St. Kitts and Nevis	76,65	100	Cook Islands	74,58
26	Ireland	50,65	64	Portugal (Madeira)	54,68	101	Grenada	77,08
27	Kenya	80,05	65	Puerto Rico	77,20	102	Macedonia	60,68
28	China	60,08	66	Vanuatu	88,58	103	Botswana	68,73
29	Russia	63,98	67	Uruguay	60,83	104	Slovenia	41,83
30	Turkey	67,98	68	Aruba	75,98	105	Andorra	66,05
31	Malaysia (Labuan)	71,93	69	Dominican Republic	71,60	106	Gambia	76,63
32	India	51,90	70	Czech Republic	52,93	107	Trinidad and Tobago	65,25
33	South Korea	59,03	71	Finland	52,70	108	Nauru	66,65
34	Israel	63,25	72	Iceland	59,90	109	San Marino	64,00
35	Austria	55,90	73	Brazil	49,00	110	St. Lucia	78,28
36	Bermuda	73,05	74	Hungary	54,70	111	St. Vincent and the Grenadines	69,95
37	Saudi Arabia	69,88	75	Tanzania	73,40	112	Montserrat	77,50
38	Liberia	79,70						

Appendix 1 – Financial Secrecy Index – 2018 Results. *Source:* https://www.financialsecrecyindex.com/en/introduction/fsi-2018-results



Appendix 2 – Portugal (Madeira) financial secrecy classification. *Source:* *https://www.financialsecrecyindex.com/PDF/Portugal_Madeira.pdf*

Appendix 3 – Portugal (Madeira) financial secrecy indicators. *Source:* *https://www.financialsecrecyindex.com/PDF/Portugal_Madeira.pdf*

Non-Cooperating		Cooperating
Antigua and Barbuda	Malaysia	Andorra
Bahamas	Marshall Islands	Anguilla
Bahrain	Mauritius	Aruba
Barbados	Mexico	British Virgin Islands
Bermuda	Nauru	Cayman Islands
Belize	Niue	Guernsey
Botswana	Panama	Isle of Man
Brunei	Philippines	Jersey
Chile	Qatar	Liechtenstein
Cook Islands	Russia	Monaco
Dominica	Samoa	Montserrat
Ghana	Seychelles	Netherlands Antilles
Grenada	St Lucia	San Marino
Hong Kong	St Kitts and Nevis	Switzerland
India	St Vincent and the Grenadines	Turks and Caicos Islands
Indonesia	Trinidad and Tobago	
Jamaica	United Arab Emirates	
Liberia	Uruguay	
Lebanon	US Virgin Islands	
Macau	Vanuatu	

Appendix 4 – List of offshore centers as classified by the OECD. *Source: Caruana-Galizia e Caruana-Galizia (2016)*

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Ahmad El-Gohari	James L. Butkiewicz	Phillip J. Quinn
Alex Prats	James R. Hines Jr.	Roman Lanis
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Appendix 5 – Authors with one published article.