Emerging Markets Queries in Finance and Business

Determinants of tax havens

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Abstract

The purpose of this study is to identify the major determinants of tax havens in the actual economic context. The development of tax havens was favored by some factors at macroeconomic level, but also by tax noncompliance behavior of individuals who are seeking different ways to avoid taxation. Based on a logistic regression this study reveals the most important factors that favor a country's tax haven status. The main finding of this approach is that low taxation is not enough for a country to be a tax haven. Despite the fact that the corporate tax rate is indeed significant according to the model, the percentage of services in GDP proves to be the most prominent variable, and only the countries which have an important part of their GDP made up of services are likely to acquire tax haven status. Since offshore finance is one of the main pillars on which tax havens lie down, the importance of the services sector comes as no surprise. Using the logit model, each country's tax haven status is determined.

1. Introduction

Tax haven status involves combining more favorable conditions in order to create that climate of great economic, fiscal, political and infrastructure necessary for the development of tax avoidance tasks using various tools and mechanisms such as offshore companies.

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According to classical definitions, a tax haven is a country which has a very low taxation or even no taxation at all. However, tax havens are not all about low or lack of taxation. They are also characterized by high levels of secrecy and the availability of a strong network of financial services that allows users sophisticated strategies for achieving their goals.

From a historical perspective tax havens have a continuously and complex evolution along the time. Gordon Report identifies one of the first "ancestors" of modern tax havens and implicitly tax evasion: Ancient Greece. In Athens, in order to avoid a custom duty in value of 2% applied by the city on imports and exports of goods, merchants were using nearby islands for storing their goods, which were then illegally introduced in the city (Gordon, 1981: 21).

Tax havens and money laundering have a long history behind, having as users pirates who acted in the Atlantic Ocean in the seventeenth century. They used to go in certain place, and even to moneylenders that represent for them a way of hiding wealth from plundering merchant ships (Nandra, 2008: 131).

A defining moment for the evolution of tax havens is when the legislation regarding limited liability companies was adopted in England and in its colonies in the nineteenth century. With the emergence of this type of company the two types of taxes that exist nowadays were differentiated: profit tax in the case of juridical persons and income tax for the physical persons (Mănăilă, 2004:5).

The European countries economies were in a bad state after the end of the First World War and funds were desperately needed in order to recover. In consequence, the vast majority of them choose to highly increase their level of taxes. Many of the investors were not at all pleased by this situation and therefore them chosen to move their money in Switzerland which was neutral and used to be a financial haven for investors even before this event. Furthermore, Switzerland significantly lowered its level of taxation.

One of the characteristics of tax haven legislation is the quick company registration technique that was used for the first time in New Jersey Delaware around 1880 by the governor of New Jersey. In that time, considering the fact that other U.S. states' legislation was quite restrictive in terms of recording companies, New Jersey attracted a large number of corporations who were interested in its permissive legislation regarding company registration. In addition, Delaware also started to make use of this technique. So it seems that one of the first techniques used by tax havens was established in these two states. The European states also began to follow their example. It is the case of some Swiss cantons that brought this technique in Europe and started using it (Palan, 2009).

The idea of the "virtual" residence was patented by the British Court when there were firms that were registered in Britain even if they didn't have any form of activity there and as a consequence of the non-residence they were not subject to taxation. This technique was later copied by Bermuda and Bahamas and improved by Cayman Islands (Palan, 2009).

The point when Switzerland highly increased its level of banking secrecy in 1934 by placing the obligation of keeping this secret under the protection of criminal law is another important moment for the historical evolution of tax havens. The punishment was the imprisonment for any act of disclosure of information to some authorities regarding customer bank accounts (Buzan, 2011:14-15).

So, as it can be widely observed the legal premises on which modern tax havens later developed are: laws in Delaware and New Jersey on quick registration companies, the UK laws related to tax residency and the Swiss law that establishes the banking secrecy (Buzan, 2011: 15).

States that began to enact a legislation that would favor the development of the necessary conditions of becoming a tax haven started doing this by being aware of all the advantages that would accompany it only after the Second World War (Buzan, 2011: 12).

Lately tax havens have been the cause of a great international concern while becoming the target of numerous attacks from various institutions and individuals. This is a normal reaction taking into account the history of economic crimes involving financial havens and the accusations of them eroding other countries' tax base. Some examples of financial crimes conducted through tax havens are the following: Panama has served as

a center for cleaning Chicago mafia's funds, having as intermediary the cardinal Paul Marcinkus who involved several offshore financial institutions from Vatican in illegal business. Another case that raises big question marks about the way in which multinationals make business is the case of Enron, whose collapse was highly publicized and also involved the dissolution of Arthur Andersen, one of the "Big Five" accounting firms providing services to large corporations. Appearing as a result of the merger between Houston Natural Gas and InterNorth the company had no more and no less than 881 offshore branches and companies from which 692 were registered in Cayman Islands and others in Turks and Caicos, Mauritius, Bermuda, Luxembourg, Nevada and Delaware (Mănăilă, 2004: 177- 181).

For any new investments, Enron used three companies that were registered in Cayman Islands. Two companies owned a third one which was registered as the actual holder investment. In the case of liquidation or sale of investment Enron was subject to a favorable tax treatment in the U.S. This is just one of the schemes used by Enron, which turned from the seventh U.S. company taking into accounts its size, into a symbol of fraud. Anyway the schemes used have been declared illegal by SEC (Mănăilă, 2004: 180). Both Clinton and George Bush expressed their opposition to tax havens says Palan (2009). Tax havens have come under scrutiny of institutions like G7, International Monetary Fund, Financial Stability Board and OECD and last but not least the European Union's fight against tax havens ought to be mentioned.

In this respect the action plan issued by the European Commission in 2012 is of high relevance. The plan was issued in order to respond more effectively against evasion and tax fraud in the EU and one of the recommendations includes adopting a strong position of the EU against tax havens, one that is stronger than international current measures. In the communication is stated that "tax havens compete unfairly and make it difficult for 'non' tax havens to collect a fair amount of taxation from their residents" while mentioning in the same time that "stepping up the fight against tax fraud and evasion is not only an issue of revenue, but also of fairness".

Consequently, tax havens attract extensive foreign investment, and have registered substantial economic growth over the past 25 years. (Dharmapala and Hines 2006) The question would then be: why do not all non-haven countries modify their taxation in order to attract foreign money? The answer is because they cannot afford to become tax havens. Beyond low taxation, the profile of a tax haven can be summarized as follows: well-governed, small country, with low population enjoying a high GDP per capita and where services have a very large share in GDP.

According to a report published by the International Monetary Fund in 2008, there are 46 confirmed tax havens in the world today. The GDP per capita in almost all of these countries is higher than the world average, while the mean of services as percentage of GDP is approximately 75%, compared to 54.42% which is the world average excluding tax havens. Generally, tax havens have below 1 million inhabitants and are not members of any international organization. In order to determine the significant factors determining the tax haven status statistical data and econometric models will be used.

2. Methodology and results

The starting point of this study was the work of Dharmapala, Dhammika and Hines, James R., Which countries become tax havens? (2006). The quality of a country's governance is identified as being the core factor determining which countries become tax havens. Using evidence from US multinationals, the authors show that well-governed countries tend to attract more foreign direct investment than countries with a poor quality of governance, considering the same level of taxation in both types of countries.

The novelty of this study is given by the fact that, in our vision, several other variables with a much stronger impact on the tax haven status can be identified, the percentage of services in GDP, the tax rate for offshore companies and the level of GDP/capita being among these variables. Starting from these ideas, we try to prove the validity of these variables in order to offer a completely new perspective on the tax haven status.

Hansen and Kessler (2001) explain the existence and characteristics of tax havens through a combined approach involving both political and geographical factors. They investigated whether the geography of a country affects its pattern of taxation. According to the authors, tax havens and tax hells have emerged because of the differences in countries' surface. The most important conclusion of this study is that small countries generally charge lower taxes than larger ones.

Slemrod and Wilson (2009) develop a framework in which tax havens are dependent on the revenues of other countries. They also showed that smaller countries usually choose to become tax havens. In addition, Slemrod and Wilson also concluded that the incentive to engage in tax haven operations rises with capital income tax rates, and governments respond to this lost revenue by relying more on other sources of revenue (taxes on wage income in their model) and also by cutting public expenditures.

The econometric model is based on data provided by World Bank and other few data bases (as can be seen in Table 1) for all the countries. We realize for testing our determinants a cross-section regression in a probit model.

Table 1. Description of the variables used to explain the tax haven status

Symbol	Variable	Description of the variable	Source
LN_GDPCAP_PPP	GDP/capita*	Measured in terms of Purchasing Power Parity, as of 2010.	Global Finance Magazine; CIA World fact book
GOVERNANCE_INDEX	Governance index	It is a variable taking values in the interval (-2.5; 2.5), a variable with normal distribution of mean 0 and standard deviation 1. The values are for 2009.	The work of Daniel Kaufmann, Aart Kraay and Massimo Mastruzzi from the World Bank Institute.
LN_POPULATION_2011	Population*	The number of inhabitants, using estimates for July 2011.	CIA World fact book
PERC_OF_SERVICES_IN_GDP	Percentage of services in GDP	The share of services in a country's GDP, figures for 2010.	Global Finance Magazine
TAX_RATE_OFFSHORE_COMP	Corporate tax rate for offshore companies	The rate used for computing the tax due on profit by foreign companies, as of January 2011.	Deloitte Report, 2011
LN_AREA_SQ_KM	Area*	The surface of the country, expressed in square kilometres	CIA World fact book
ISLAND	Island	It takes the value 1 if the country is an island, and 0 otherwise	CIA World fact book
ENGLISH_OFF_LANGUAGE	English as official language	It takes the value 1 if English is one of the official languages in a certain jurisdiction, and 0 otherwise	CEPII database
FORMER_BRITISH_COLONY	Former British colony	It takes the value 1 if the country has a British colonial past and 0 otherwise.	CEPII database

The dependent variable in the analysis is the Tax haven status. This is a dummy variable, which can take two values: 1 if the country is a tax haven and 0 if the country is not a tax haven. There are several opinions and debates regarding the tax haven status of some countries or jurisdictions, and therefore there are several lists of tax havens. For this analysis, we use the most recent list, which is the one published in the IMF Report from 2008, which identifies a number of 46 tax haven jurisdictions (see Appendix 1). The total number of

countries which constitute the regression sample and for which all of the above mentioned variables were gathered, is 214, out of which 46 are tax havens.

Table 2. Summary of the main descriptive statistics

Variable	Mean	Variance	St. deviation	Mean	Variance	St. deviation
Log of GDP/capita	8.71	1.64	1.28	9.85	0.85	0.92
Governance index	-0.19	0.81	0.90	0.75	0.40	0.63
Log of population	15.96	3.51	1.87	11.94	3.87	1.97
Percentage of services in GDP	0.55	0.02	0.15	0.75	0.02	0.14
Corp. tax rate for offshore companies	0.26	0.01	0.08	0.13	0.02	0.13
Log of area	11.96	4.51	2.12	6.32	5.06	2.25
Island	0.18	0.15	0.39	0.73	0.20	0.45
English as official language	0.22	0.17	0.41	0.67	0.23	0.48
Former British colony	0.27	0.20	0.45	0.73	0.20	0.45

The statistics summarized Table 2 come to support the typical tax haven profile: a small country not only in terms of area, but also in terms of population, with a high GDP/capita and where the services sector has an extensive contribution to the country's GDP.

Fig. 1 charts the average GDP/capita in non-havens as a horizontal line against which are plotted the values for this indicator in tax havens. More than half of the tax haven jurisdictions have an elevated level of GDP/capita in terms of purchasing power parity. In these countries, per-capita welfare is high enough to allow for smaller government revenues by means of cutting corporate tax rates for offshore companies. Fig. 2 plots the average share of services in the GDP of non-haven countries, which according to Table 2 is 55%. With very few exceptions, all tax havens have a share of services in GDP which is above the average for the other countries.
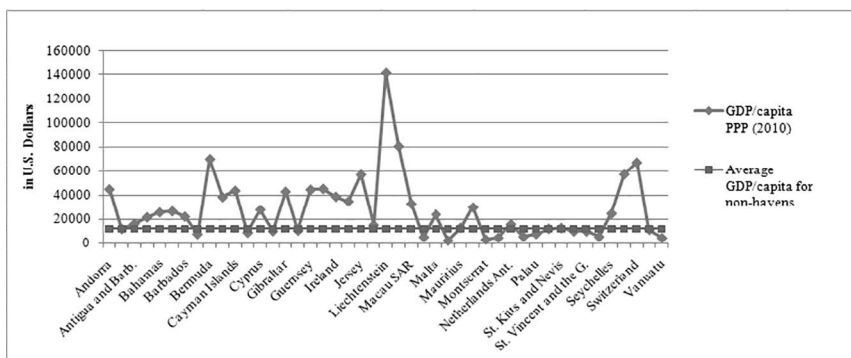

Fig. 1. Comparison GDP/capita in tax havens and the average GDP/capita in non-havens

According to a ranking prepared by the Central Intelligence Agency, and available on its website, 11 out of the 20 countries with the highest level of GDP/capita (based on 2010 estimates) are tax havens. Liechtenstein ranks second only behind Qatar, and is therefore the tax haven which has the largest per-capita welfare.
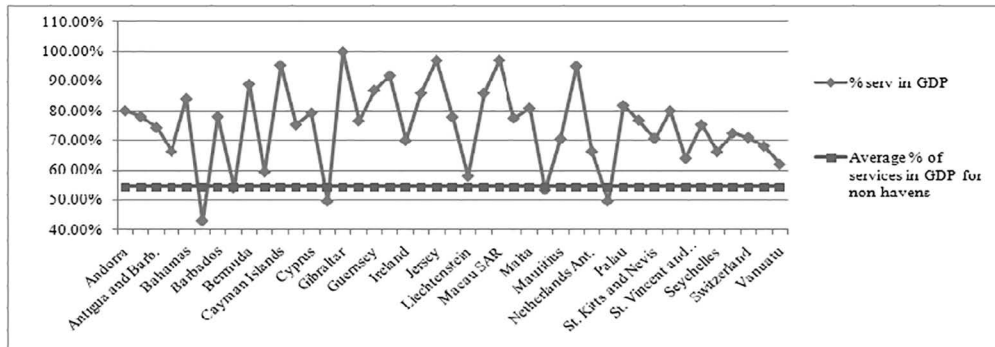

Fig. 2. Percentage of services in GDP in tax havens compared to the average for non-havens

The economy of tax havens is focused heavily on the services sector, given that the majority of these countries are poorly endowed with natural resources. This lack of resources prevents them from relying on industry or agriculture, for instance, in order to sustain their economic growth. (Dharmapala 2008, citing estimates from the World Bank 2006)

Moving from the analysis of economic and political characteristics to those related to geographic location, it can be noticed that tax havens are generally islands, the result being economic openness. Also, tax havens are countries with relatively small area (see Table 2). Thus, the average surface in square kilometers is much lower for tax havens compared to the other countries (Dharmapala 2008).

Tax havens are in large proportion former British colonies. Former British colonies' legislative system is more permissive than elsewhere, being based on the British "common law". Havens are also more likely to use English as official language and to be rather dependent territories than sovereign states (Dharmapala 2008). We build the follow regression for testing the assumption:

$$Tax\_haven\_status = c_0 + c_1(ln\_gdpcap\_ppp) + c_2(ln\_population\_2011) + c_3(governance\_index)$$
$$+ c_4(tax\_rate\_offshore\_comp) + c_5(perc\_of\_services\_in\_gdp) + c_6(ln\_area\_sq\_km) + c_7$$
$$(island) + c_8(english\_off\_language) + c_9(former\_british\_colony) \qquad (1)$$

As anticipated, the variables which have a negative impact on a country's likelihood of becoming a tax haven are: the number of inhabitants, the tax rate for offshore companies, the area and governance index.

According to our findings, the larger a country's surface (in square km), the lower will its probability of becoming a tax haven be. On the contrary, Desai et al. (2006) show that firms are likely to be better able to relocate profits to larger tax havens, where their activity is more substantial and leads to higher profit taxes paid, which in turn reduces authorities' suspicions.

Based on the results from probit model we can synthesize the main results in the next table:

Table 3. Coefficients and probabilities for regressions

Independent variable	DEPENDENT VARIABLE: TAX_HAVEN_STATUS	
	Method: ML - Binary Probit (Quadratic hill climbing)	
	(1)	(2)
Constant	-0.53	-6.77*
	(2.90)	(3.95)
LN_GDPCAP_PPP	0.71***	0.83**
	(-3.95)	(0.39)
LN_POPULATION_2011	-0.45***	-0.31*
	(0.09)	(0.18)
GOVERNANCE_INDEX	-0.09	-0.37
	(0.36)	(0.47)
TAX_RATE_OFFSHORE_COMP	-5.55***	-7.77***
	(1.73)	(2.61)
PERC_OF_SERVICES_IN_GDP		9.37***
		(2.86)
LN_AREA_SQ_KM		-0.27*
		(0.14)
ISLAND	0.52	0.21
	(0.41)	(0.52)
ENGLISH_OFF_LANGUAGE	0.038**	0.76
	(2.21)	(0.75)
FORMER_BRITISH_COLONY	0.87**	0.59
	(0.39)	(0.70)
Observations	203	201
McFadden R-squared	0.63	0.77

As it can be noticed from Table 4, the most representative variable for the model according to the value of its coefficient and its probability is the percentage of services in GDP and the tax rate for offshore companies.

Why is the share of services in GDP so restrictive in deciding which countries become tax havens? A possible explanation might be that countries that do not have abundant natural resources for industry nor favorable conditions for large-scale agricultural production, must find alternatives for generating budget revenues, and one of these alternatives is exactly the development of the services sector. The Cayman Islands are a good example: besides palm trees and sandy beaches that foster tourism, the country has no other natural resources. The same situation is in Switzerland, which besides wood has no other commercially significant resource, and where mountains make-up roughly 100% of the country, hence rendering industry and agriculture unsustainable. It comes as no surprise that these countries sought alternatives to industry and agriculture and developed the extensive network of services, as it is known today.

3. Conclusions

By applying the model to all countries and analyzing the results, we may conclude that for being a tax haven a low level of tax rates is not enough. As shown by the probabilities of the coefficients, the most significant

variable in the model is not the tax rate for offshore companies, but the percentage of services in GDP. Another important conclusion is that only the countries with a relatively small population and high GDP/capita can become tax havens.

Comparing the results of our work with those of the previous, the most important differences concern the variables that are significant for the tax haven status is in the case of governance index without significance in our model comparative with Dharmapala and Hines (2006) that identified the governance index as being the most significant factor.

Also important determinants are GDP/capita, the number of inhabitants and the fact of being island or not. The percentage of services in GDP proved to be very important because tax havens are at the same time offshore financial centers and therefore financial services should account for a large percentage in a haven's GDP. The corporate tax rate for offshore companies is another important factor because this is one of the primary reasons why many companies are registered in tax havens - to avoid high domestic tax rates.

Countries with a high population cannot afford to become tax havens because they cannot afford to lose tax revenue, and this is why population is also a significant variable and it is proved by the fact that all the jurisdictions that are known as tax havens are sparsely populated. GDP/capita captures the welfare of a country's citizens, and poor countries with low values of this indicator cannot become tax havens for the same reason as countries with a large population: because they need to collect tax revenue. The fact of being island is an important determinant because in general islands have a small number of inhabitants, variable that we also identified as being statistically significant for the tax haven status.

We have to mention that at international level there is an intensified fight against tax havens and this fight is coordinated by OECD and European Union. Despite of all these efforts for limiting the tax havens expansion our prediction is that tax haven status will be in a continuously development in the future of mainly based on financial techniques becoming more sophisticated.

Appendix A. List of tax havens, prepared by the International Monetary Fund (2008)

	Country/jurisdiction		Country/jurisdiction
1.	Andorra	25.	Luxembourg
2.	Anguilla	26.	Macau S.A.R.
3.	Antigua and Barbuda	27.	Malaysia (Labuan)
4.	Aruba	28.	Malta
5.	Bahamas	29.	Marshall Islands
6.	Bahrain	30.	Mauritius
7.	Barbados	31.	Monaco
8.	Belize	32.	Montserrat
9.	Bermuda	33.	Nauru
10.	British Virgin Islands	34.	Netherlands Antilles
11.	Cayman Islands	35.	Niue
12.	Cook Islands	36.	Palau
13.	Costa Rica	37.	Panama
14.	Cyprus	38.	Saint Kitts and Nevis
15.	Dominica	39.	Saint Lucia
16.	Gibraltar	40.	Saint Vincent and the Grenadines
17.	Grenada	41.	Samoa
18.	Guernsey	42.	Seychelles
19.	Hong Kong	43.	Singapore
20.	Ireland	44.	Switzerland
21.	Isle of Man	45.	Turks and Caicos Islands
22.	Jersey	46.	Vanuatu
23.	Lebanon		
24.	Liechtenstein		

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