LISBON SCHOOL OF ECONOMICS & MANAGEMENT
UNIVERSIDADE DE LISBOA

MASTER OF SCIENCE IN FINANCE

MASTER FINAL WORK

DISSERTATION

THE INTRODUCTION OF CCCTB – COMMON CONSOLIDATED CORPORATE TAX BASE IN PORTUGAL

ANTÓNIO SAMPAIO CÂNDIDO DA SILVA

OCTOBER - 2016

MASTER OF SCIENCE IN FINANCE

MASTER FINAL WORK

DISSERTATION

THE INTRODUCTION OF CCCTB – COMMON CONSOLIDATED CORPORATE TAX BASE IN PORTUGAL

ANTÓNIO SAMPAIO CÂNDIDO DA SILVA

SUPERVISOR

PROFESSOR JOAQUIM MIRANDA SARMENTO

OCTOBER - 2016

Agradecimentos

Gostaria de agradecer ao meu Tutor e Professor Doutor Joaquim Sarmento pela sua preciosa ajuda e dedicação no decorrer deste trabalho, contudo o meu sangue continua a correr bem verde e branco.

Agradeço aos meus colegas de licenciatura que durante estes anos todos nunca deixaram de me apoiar, mesmo nos momentos mais difíceis da minha vida.

Também aos meus amigos e companheiros de carteira do mestrado, especialmente ao meu grupo de trabalho que sempre me auxiliaram.

Obrigado aos meus colegas de equipa da BDO, que nos últimos tempos me ensinaram uma nova metodologia de trabalho e encarar a dificuldade com novos olhos e ambição.

Agradeço também à minha família, em especial, à minha mãe, Ana, às minhas irmãs, Inês e Teresa como todos os restantes membros da família e à Júlia, que me acompanha há muitos anos.

Por fim, quero agradecer ao meu Pai, António, porque foi sempre e sempre será o meu melhor amigo e é sempre o primeiro a chamar-me à razão, a apoiar-me mesmo quando estava longe de casa, a insistir na minha constante formação, para além dos ensinamentos de família, honra e trabalho.

"And now my watch is ended"

Abstract

In a global world, companies that develop its activities in many countries of the European Union, have to face many economic and fiscal obstacles. Since the dawn, in 1950, of the European Communities, which main objectives were to bring the Old Continent Nations together, we have seen a proliferation of cross-countries business development and the establishment of multinational companies throughout Europe. This cross-border corporation growth led to some tax distortions and erosions, mainly regarding the capital shifting between nations raising some concerns about the ability of Governments to apply their own tax legislation, essentially the corporate tax. This is one of the main concerns of the European Commission Taxation and Customs Union that throughout the past years have been researching for a tax harmonization method in which all 28 Member States could rely on and empower the Single Market. In 2001, the idea of a common consolidated tax base was introduced which led later on, in 2011, the introduction of the Directive's Proposal of a Common Consolidated Corporate Tax Base (CCCTB) as the inner solution for corporate tax harmonization. Although, preliminary studies showed us that it could not be, for now, the answer for the issue at hand due to the distortions that may create replacing the 28 Member States tax legislation in force in the European Union. This work shows that in Portugal the difference between the existing tax legislation and CCCTB is reduced and would not bring any advantage for corporate tax harmonization.

Key words:

Tax Harmonization; Tax Legislation; Tax Base; CCCTB; Single Market

Resumo

Num mundo global, as empresas tem desenvolvido as suas atividades em diversos países da União Europeia tendo que enfrentar alguns obstáculos económicos e fiscais. Desde os tempos primórdios, de 1950, as Comunidades Europeias cujo objetivo primário é a aproximação das Nações do Velho Continente, temos visto uma proliferação do desenvolvimento de negócios e empresas para além fronteiras na Europa. Este crescimento corporativo internacional levou ao aparecimento de distorções e erosões fiscais, devido ao fluxo de capital entre Nações que levantam algumas preocupações sobre a capacidade dos Governos de aplicar a sua legislação fiscal relativamente aos impostos corporativos. Esta é uma das grandes inquietações da Autoridade Fiscal e Aduaneira da União Europeia, que ao longo destes últimos anos tem procurado por um método eficaz de harmonização fiscal onde todos os 28 Estados Membros pudessem depender, assim como fortalecer o Mercado Único. Em 2001, foi introduzida a ideia da Matéria Coletável Comum Consolidada onde mais tarde, em 2011, deu lugar à apresentação da Proposta Diretiva de Matéria Coletável Comum Consolidada do Imposto sobre as Sociedades (MCCCIS) como uma solução para a harmonização fiscal corporativa. Contudo, os estudos preliminares demonstraram que a resposta para o problema em questão, não seria a melhor resposta, no momento, visto que traria distorções adicionais aquando a substituição pelos Sistemas Fiscais dos 28 Estados Membros. Este trabalho demonstra que em Portugal, a diferença entre o Sistema Fiscal atual e a implementação do MCCCIS é reduzida e não traria qualquer vantagem para a harmonização fiscal corporativa.

Palavras-Chave:

Harmonização Fiscal; Legislação Fiscal; Matéria Coletável; MCCCIS; Mercado Único

Table of Contents

1 – Introduction 1

1.1 – Prologue 1

1.2 – Theses Main Theme 4

2 – Literature Review 5

2.1 – Tax Harmonization Concept 5

2.2 – The Tax Harmonization in the European Union 6

2.2.1 – Chronology of the Tax Harmonization within the EU 6

2.2.2 – The Importance of Tax Harmonization in the EU 11

2.3 – Common Consolidated Corporate Tax Base (CCCTB) 12

2.3.1 – CCCTB Preamble 12

2.3.2 – Concept and Definition of CCCTB 14

2.3.3 – Alternatives to CCCTB 17

2.3.4 – Advantages and Disadvantages of CCCTB 18

2.3.5 – Studies made about CCCTB 19

3 – Method and Data 22

3.1 – The Formula of CCCTB and Variable Explanation 22

3.2 – Sample Description 25

3.3 – Dependent Variables 25

3.4 – Independent Variables 26

4 – Results 29

4.1 – Descriptive 29

4.2 – Econometric Models 31

5 – Conclusions 34

References 36

Appendix 42

List of Formulas

Formula 1 – Directive's Proposal for CCCTB Formula 22

List of Charts

Chart 1 – Tax Base and Income under Portuguese Tax Legislation 29

Chart 2 – Tax Base and Income under CCCTB 30

List of Tables

Table 1 – Independent Variable Description 42

Table 2 – Multicollinearity Matrix 43

Table 3 – Output I Log TB CCCTB OLS - Robustness 43

Table 4 – Output II Log TB CCCTB (OLS – Robustness) 44

Table 5 – Output III Log TI CCCTB (OLS – Robustness) 45

Table 6 – Output IV Log TI CCCTB (OLS – Robustness) 46

Table 7 – Tax Base and Income under Portuguese Tax Legislation 46

Table 8 – Tax Base and Income under CCCTB 47

Table 9 – Output Regression (3) Log TB CCCTB OLS – RE 47

Table 10 – Output Regressions (4) & (5) Log TB CCCTB OLS – RE 48

Table 11 – Output Regression (6) Log TI CCCTB OLS – RE 49

Table 12 – Output Regression (7) & (8) Log TI CCCTB OLS – RE 50

Table 13 – Descriptive Statistics 51

List of Abbreviations

CCCTB – Common Consolidated Corporate Tax Base

ECSC - European Coal and Steel Community

EEC – European Economic Community

MS – Member State

SM – Single Market

VAT – Value Added Tax

OECD - Organisation for Economic Co-operation and Development

EU – European Union

EC – European Commission

EEC – European Economic Community

GDP – Gross Domestic Product

IFRS – International Financial Reporting Standards

OLS – Ordinary Least Squares

RE – Random Effects

1 – Introduction

1.1 - Prologue

History has shown us, that the society expansion (at various levels), led to significant changes in its organization, which changed the small and traditional business' to multi-national companies throughout the Globe (Antunes, 2002).

This change was encouraged by the increase of economic, financial and legal benefits associated with the creation of groups of companies. At the economic level, these corporate figures enable more effective management and reduce the risk associated with their own expansion. At the financial level, allows the domain of large amounts of capital flow with a low initial investment. At the legal level, it has created a special tax regime applicable to groups of companies (Antunes, 2002).

In Europe, after the World War II, due to the mass destruction caused by this conflict, in 1950, the establishment of the European Coal and Steel Community (ECSC) was the first stepping stone, which starts the process of economic and political union of the European Nations[1]. Furthermore, in 1957, the Treaty of Rome instituted the European Economic Community (EEC), "*establishing a common market and an harmonious development of economic activities, eliminating the MS customs duties, quantitative restrictions on import and export and the free movement for persons, services and capital*" (The Rome Treaty, 1957), was a starting point of the European market trade expansion.

Technological developments that we have witnessed in the recent decades, have shown us a reality of companies with traditional business models and limited cross-border

[1] Article 2 *"The ECSC shall have as its tasks to contribute (...) with the general economy of the Member States and through the establishment of a common market…"* – Treaty establishing the European Coal and Steel Community, France , 1951

activity changed to a reality where the simplicity of movement of people, goods and information within the European Union[2] (as we know it today) allowed companies to become complex organizations, under the implementation of the European Single Market, and take advantage of the tax harmonization absence and the weaknesses of the tax systems.

This proliferation of multi-national companies worldwide allied with the globalization phenomenon[3] leads to a basic problem, regarding the tax affairs, is that the continuous tax collection, directly or indirectly, from citizens or corporations who have their activity within a nation's border, cannot be effectively fulfilled due to availability to withdraw their profits elsewhere when the time comes to pay their fair share of taxes (Doward, 2014).

Faced with this new reality, the Member States realized there is thrive to adjust their tax systems to attract and retain investment in order to keep tax revenues within borders.

Throughout the past decades the European Commission issued various legislations where the main objective was to harmonize the tax system, especially for the corporate tax system[4].

Due to the constant changes in the economic flow, allied to the Globalization observable fact, and the constant need to harmonize the tax system within the European Union the EC in 2001 issued a Communication, delivering a strategy to provide Governments with

[2] Article G, nr. 3 section a) *"...the elimination, as between Member States of customs duties and quantitative restrictions on the import and export of goods, and of all other measures having equivalent effect; section c "an internal market characterized by the abolition as between Member States of obstacles of the free movement of goods, persons, services and capital"*, Maastricht Treaty , 1992

[3] "*Global-sized structures refer to the institutions, agencies, and organizations whose missions, mandates, networks, and even work-forces, (...), are essentially global rather than local in natures"* A. Ahmad, 2013

[4] Council Directive 90/435/EEC, Common system of taxation applicable in the case of parent companies and subsidiaries of different Member States, Official Journal of EEC, 1990 which enforce the corporate tax legislation in multinational companies with economic activities in different Member States;

a consolidated tax base, where the mainframe is to adjust company taxation in the EU to the recent economic framework and to reach a more efficient Single Market[5] without internal tax obstacles (COM 582 final, 2001).

Much has been researched by the European Commission regarding the issue of tax harmonization through Official Directives and Communications and, in 2011, the Common Consolidated Corporate Tax Base or CCCTB, was introduced by the Taxation Customs Authority of the European Union, which main objective aims to engage in some major fiscal impediments to the Single Market growth (COM 121/4, 2011) align with the Europe 2020[6] strategy, which invokes a common and sustainable economic and social strategy for the European Union.

As it is understandable, the CCCTB can go through a large number of obstacles due to the different tax systems and legislation of the 28 countries of the EU, although a measure of the type of the CCCTB will only be effective if based on a process of European tax harmonization of the structural resources of European corporate law. (Abreu, 1996).

> *In the long term, the most ambitious and the most significant measure would be the introduction of a common consolidated corporate tax base for all EU-wide economic activities*
>
> *Lászlo Kovács (2006)*
>
> *Taxation and Customs European Union Commissioner*

[5] COM(2010) 608, 27.10.2010 – Communication from the Commission, "Towards a Single Market Act"
[6] COM(2010) 2020, 3.3.2010 – Communication from the Commission, "Europe 2020 – A Strategy for smart, sustainable and inclusive growth"

1.2 Thesis Main theme

Considering what it is about to be presented in the following chapters and the complexity of this theme, but taking into consideration the Single Market Act and the constant actions that have been undertaken by the European Commission on tax legislation, there are a series of questions that are brought into light.

In this dissertation we will consider Portugal, Member State of the European Union since January 1st 1986, and study what would be the impact on Portuguese companies and enterprises gain from the introduction of CCCTB in their country?

Taking into consideration what has been introduced above, for the remaining of this dissertation, we will attempt to frame the theoretical theme of tax harmonization in the European Union within the Single Market Act that applies to all Member States, including Portugal.

2. Literature Review

[Corporations] have the Plastic Man capacity to be everywhere and nowhere at the same time – to be everywhere when it comes to selling their products, and nowhere when it comes to reporting the profits derived from those sales (Stiglitz – The Guardian,2013)

2.1 Tax Harmonization Concept

The current Member States rely on tax revenues obtained through their tax systems, since it is through taxes, that a nation gets the financial resources necessary to uphold the essential infrastructures and services generally offered to the society.

The meaning of harmonization is "compatible and/or convergence", words which personally seem that perfectly explains the main goal of the EU is trying to achieve, which is to find a compatible tax system for all MS.

The basic concept of tax harmonization is a process of correcting tax systems of different dominions, to reach a middle ground of common policy goal. Closely defined, tax harmonization implies a convergence towards a uniform tax liability on commodities or on means of production (James, 2002).

However, the main concept of tax harmonization can vary from various countries of different parts of the world due to the existing tax systems that reflect objectives that are given different weights by different countries (Tanzi & Bovenberg, 1990).

The process of tax harmonization leads to changes in tax legislation throughout world is very important, not only for goal that it aims, but also for the results of this process (Bittamannová, 2016).

For many years, various groups of countries such as the United States, the Member States of the European Union and even world organizations like the Organization for Economic Cooperation and Development, attempted to review and develop guidelines for multinational enterprises tax legislation, with the final goal to identify and harmonize possible conflicts throughout the world economy (Forry & Lerner, 1976)

If we consider that, within a Common Market, such as the European Single Market, where the challenge is the economic integration, the fiscal barriers should be reduced to the minimum for companies that would try to enter in the market and can easily be assumed that the tax disparity between states, i.e., the absence of tax harmonization among Member States, is necessarily an important barrier.

2.2. The tax harmonization in the European Union

2.2.1 – Chronology of the tax harmonization within the EU

In Europe, mainly in the EU countries since the Single European Act[7], the tax legislation reaches a new level of harmonization which comprises the removal of tax misrepresentations affecting commodities and factor movements in order to get a more capable allocation of resources within an integrated market (Simon, 2002).

The result of this Act, regarding taxes, should be the removal of the tax borders within the EU, including the outline of the direct as well as indirect taxes (Medved', 2011).

[7] The Single European Act (SEA), signed in 1986 which main objective was to add a new momentum to the process of the European construction as well as to complete the internal market (The Single European Act, 1986)

Although, and considering 28 Member States within the EU which leads to distortions in the EU, especially in taxation leading towards a downbeat effect in the Single Market (Peixoto, 2007), one can empirically understand that it is not simple to change all 28 tax legislations into a single one. However the objective of the EU is to harmonize the dissimilar tax systems between the Member States as it was introduced in several references shown above.

Since 1952 the European countries, consider the tax legislation standardization within the Member States, one of the solutions to clear tax predicaments at a European level. Considering the Rome Treaty, both articles 99[8] and 100[9] were explicit when it comes to tax harmonization of indirect taxes and corporate taxes, respectively (Robson, 1980).

The Neumark Report, released by the Fiscal and Financial Committee of the European Commission, was the first study made by the EC in 1962, presented the first considerations of tax distortions as a Single Market consolidation problem due to the different MS tax legislation at the time. This report identifies, as a barrier, the tax distortions existing in the Single Market as an ordinary fiscal problem, mainly concerning the dissimilar tax legislation in MS as well as the different fiscal structure between them.

This report focused mostly in the eliminations of said distortions that would lead to a more consolidated Single Market in EU and for that some recommendations were made in order to apply a harmonization options such as (Pinheiro, 1998):

1. On interest and dividends;

[8] Artº99 – "*The Commission shall consider how the legislation of the various Member States concerning turnover taxes, excise duties and other forms of indirect taxation, including countervailing measures applicable to trade between MS, can be harmonized in the interest of the common market.*"

[9] Artº100 – "*…the Commission, issue directives for approximation of such provisions laid down by law, regulation or administrative action in MS as directly affect the establishment or functioning of the common market.*"

2. On Companies and Enterprises corporate tax on profits to avoid the double taxation;
3. Establishment of a single tax court for all European Countries that operate in the Single Market;
4. The extinction of taxes on Capital flow throughout the EU.

Four years later, in 1966, a group of experts appointed by the EEC Commission, lead by Prof. Claudio Segré[10], whose name was given to the studies made by this group, presented the Segré Report[11]. The main conclusion of this report was that an approximation or harmonization of the laws on security rights within the each MS should be considered a priority (Segré, 1966). In other words, the conclusion was to eliminate the double taxation on capital flows within the European Community at the time.

Later on, in 1979 the van den Tempel Report was presented and identified the non-harmonized tax behaviour of cross-border dividend payments as a key problem in the Single Market, because of the different dividend tax legislation in EEC countries. So, in conclusion of this report, and in order to correct the situation presented, was to apply the classical income taxation system for officially permitted entities in all EEC countries that would allow a clear dissimilarity between corporate tax income and personal income tax (Pîrvu, 2012).

[10] At the time he was the Head of Research at the EEC Commission Directorate-General for Economic and Financial Affairs

[11] The main task of this report was to carry out a comprehensive investigation of the problems arising from the liberalization of capital flow and its implications on the capital market integration

Under the EEC Presidency, Jacques Delors[12], in 1985, the *White Paper*[13] was published, with the three main parts, the removal of physical barriers (1st part), the removal of technical barriers (2nd part) and the removal of tax barriers (3rd part), which objective was to upgrade the premises of the Treaty of Rome and gradually implement more effectively the Single Market (Fehr, Rosenberg and Wiegard, 1995).

Continuously, in 1992, the EC issued a mandate to a team led by Mr. Onno Ruding, whom put together a new report, regarding company taxation in the European Union, identifying three more solutions for tax harmonization, such as:

- The exclusion of discriminatory and distortions features of countries' tax planning that obstruct cross-border business investments and shareholding;
- Setting a minimum level for statutory corporate tax rates and common rules for minimum tax base of, to attract mobile investment or taxable profits of multinational firms;
- Encouraging maximum transparency of any tax incentives granted by MS to promote investments with a preference for incentives of non-fiscal character

Also, in the Ruding Report[14] states that even with a clear convergence over the last years in tax legislation, the main problem for the consolidation of the Single Market was the different tax regimes implied by the EU countries on commodities and capital flows. The proposed minimum and maximum corporate tax set in this report was 30% and 40% respectively (COM C191/106, 1992).

---

[12] President of the European Commission between 1985 and 1995

[13] Issued by Commission of the European Union under the theme "Completing the Internal Market" in June, 1985 in Milan Italy

[14] Abbreviation for the Report of the Committee of Independent experts on Company Taxation published in 1992

In 1996 the a group of Finance Ministers of different MS, led by Professor Monti[15] introduced new guidelines in which the European Commission should intervene such as the border taxation of interest, the implementation of bilateral convections in order to avoid double taxation as well as restraints tax competition between MS. The main conclusion was that the EC was too strict for any tax harmonization attempt (Rocha, 2006).

Later on in the same year, the *Code of Conduct* for corporate taxation was introduced with key structural aim to avoid economic distortions and the erosions of tax base in the European Union (COM 495 final, 1997).

In 2001, after the Lisbon European Council[16], the European Commission issued a strategic directive which set the objective of adapting enterprise taxation of the MS to the new economic structure and also to achieve a more efficient Single Market without inner tax obstacles. The directive led to the theoretical hypothesis of harmonization in the tax system, to al MS, based on the introduction of a common statutory tax rate in the EU for parent companies and its subsidiaries across the MS border. This was the first time that the EC enhanced a consolidated corporate tax base for the EU-wide activities which will improve company tax systems in EU in economic terms[17].

At the end of the first decade of the new millennium, Mr. Durão Barroso[18], asked again Prof. Mario Monti, to build a new report on the Single Market and his considerations for

[15] The developed work report was also nominated as the Monti Report
[16] Lisbon European Council in 2000 which set structural goals leading towards "*to become the most competitive and dynamic knowledge-based economy in the world capable of sustainable economic growth…*"
[17] For the Commission, the consolidated corporate tax base would bring solutions to tax distortions such as, the reduction of the compliance costs that results from the different 15 MS (at the time) in the Internal Market, avoid double taxation, reduce the tax with transfer pricing burdens (COM 582 final, 2001)
[18] 11th President of the European Commission, between 22 November 2004 and 31 October 2014

the possible struggles considering the crisis[19] that the European Community has endured. Monti, in his report, stated that the Single Market has suffered from political and social erosions regarding market incorporation in Europe, due to the integration and market fatigue, which means the lack of desire and distrust in building a Common Market, respectively. The second quarrel comes from the unsustainable thrive to build a solid market showing that the SM couldn't keep up with expansion of new sectors of activity and the lack of market liberalization that works for all citizens, consumers and Single and Medium Enterprises. The third challenge identified by Monti was that, since the signing of the Treaty of Lisbon in 2010 the Single Market should be subject to monetary union, growth and institutional reforms. Hence, this report showed to the EC that has not been any common definition of corporate tax base replacing the plurality of rules in any MS since 2001 and suggested a creation Tax Policy Group led by the Tax Commissioner and representatives of ECOFIN[20] that would provide guidance to launch a strategic dialogue on the benefits and limits of tax cooperation and coordination within the Single Market. Monti's recommendation, regarding corporate tax was to work towards a common definition of corporate tax base and move away from the *Code of Conduct* considerations mentioned above. The conclusions of this report, generally, that the EU should undertake were to build a stronger and consensus Single Market and deliver it (Monti, 2010).

[19] "*The storm buffeting the common currency of Europe is an integral part of the great crisis that commenced in 2007. Barely five years after bank speculation in the US real estate market had caused international money markets to freeze, three peripheral countries of the Euro zone were in receipt of bailout programs…*" (Lapavitsas & Eustache, Preface, 2012). The countries this author talks about are Greece, Ireland and Portugal

[20] Economic and Financial Affairs Council is composed by economics and finance ministers of the 28 MS whose tasks are the coordination of the economic policy, economic surveillance, monitoring the budget policy and public finances of the Member States, financial markets, capital movements and economic relations with third party countries.

2.2.2 – The Importance of Tax Harmonization in the EU

In Europe, mainly in the EU countries since the Single European Act, the tax legislation reaches a new level of harmonization which comprises the removal of tax misrepresentations affecting commodities and factor movements in order to get a more capable allocation of resources within an integrated market. Also tax rate harmonization can lead to a more efficient and welfare Union (Simon, 2002).

The result of this Act, regarding taxes, should be the removal of the tax borders within the EU, including the outline of the direct as well as indirect taxes (Medved', 2011).

Although, and considering the 28 Member States, different tax legislations could lead to distortions in the EU, especially in taxation leading towards a downbeat effect in the Single Market one can empirically understand that it is not simple to change all 28 tax legislations into a single one. However the objective of the EU is to harmonize the dissimilar tax systems between the Member States as it was introduced in several references shown above (Peixoto, 2007).

So the importance of tax harmonization is to achieve a more efficient distribution of resources by levelling the playing field across the EU countries (Vito and Bovenberg, 1990).

2.3 – Common Consolidated Corporate Tax Base (CCCTB)

2.3.1 – CCCTB Preamble

Hence, in 2001, the idea of a common consolidated tax base for the EU countries was first presented as the new set of harmonization rules of a single tax base at a European level normally as known as "*Common (Consolidated) Base Taxation*" that would bring

some advantages[21] to European Union business and activities. The potential rewards that could arise from this notion, would bring significant benefits and wide-ranging solution for EU-wide actions (COM 582 final, 2001).

Two years later, the EC issued another communication on this matter and considered that the only path to prevail over the difficulties that arose since the creation of the Common Market (in the corporate tax aspect) is to consider the strategy of common consolidated corporate tax base for the EU-companies. This tax base framework could start from the IFRS approach, although the EC considered this was a difficult path due to the limited number of companies that issue their yearly end reports in the IFRS model, and concluded that the accounting dependency is a key fragment to the common tax base, regardless of the IFRS taken into force. However the difficulties that the IFRS may bring, they are considered as neutral grounds for a starting point for discussing tax issues and despite the developed work (on common taxation) wouldn't be based on the IFRS models, it could bring new and relevant foundations. Concluding, the EC states that the research for a common consolidated tax base model should be continued (COM 726 final, 2003).

The following years of 2004 and 2005 showed us the European Commission was forcing and arguing continuously for the presentation of a common tax base no later than 2008[22]; alas the quest for the intended research was only presented in the following decade

[21] The common consolidated corporate tax base stands out the following returns: (1) – The compliance costs would decrease, considering that we are taking into consideration 15 different tax systems (at the time); (2) – Transfer pricing erosions would vanish in the EU; (3) – Theoretically, P&L would be automatically consolidated on an EU basis; and (4) - Restructurings operations would be simplified (COM 582 final,2001)

[22] Sustained by COM 532 final in 2005 and COM 823 final in 2006

As I shown earlier, Monti's recommendation was to study and consequently build a common corporate tax which would lead a more stable and stronger Single Market (Monti, 2010). Finally, in 2011 the common consolidated tax base was presented to the EC.

2.3.2 – Concept and Definition of CCCTB

The CCCTB is a system of common rules for computing the tax base of companies which are tax resident in the EU and of EU-located branches of third-country companies.

Specifically, it provides for regulations to work out each company's individual tax outcome, the consolidation of those results, when there are other group members, and the distribution of the consolidated tax base to each eligible MS (COM 121/4, 2011).

The CCCTB is projected to form a new, unified tax base, in which, it is vital that it provides a all-inclusive and self-directed set of rules, which should offer both, a reference point for determining the range of the tax base through a lawmaking statement of the main concept which encompasses the substantive nature of the tax base, and a continuously valid framework in the shape of criteria for interpreting and applying the provisions of the Directive and its implementing legislations in the Member States (Freedman & Macdonald, 2008).

Basically, the CCCTB is a draft proposal for an EU Directive for a common system for calculating the tax base of business, operating in the Union, defining a unique set of

rules that make it possible for companies operating within the Community to compute taxable profits[23].

The CCCTB is the response to what the EU Commission considered in 1967 to be a key area in the harmonization of direct taxes, namely the need to standardized meaning of taxable corporate profits (Lang & Piston & Schuch & Staringer & Storck, 2013).

The main purpose of the CCCTB proposal is to resolve an amount of significant issues for globally operating business, like the lack of an adequate opportunity to cross-border loss relief in a group of companies and the administrative burden the arm's length principle entails[24] (Boer, 2012).

The main goal of CCCTB directive proposal is the definition of tax base, considered in Article 10 as *"tax base shall be calculated as revenues less exempt revenues, deductible expenses and other deductible items"*.

It appears that the system requires a common set of rules for calculating the tax base of companies and/or branches, tax base consolidation of these companies and the subsequent distribution of the common consolidated tax base between Member States in which the entities are established.

The proposal defines:

- The rules for corporate taxation;
- Which taxpayers are chosen to adopt this proposed legislation;
- How to calculate the tax base;

---

[23] Overview enounced in Official Web Site of the European Union on Common Consolidated Corporate Tax Base - https://ec.europa.eu/taxation_customs/business/company-tax/common-consolidated-corporate-tax-base-ccctb_en accessed in June, 21th 2016

[24] Principle in which subsidiaries companies shouldn't be considered different than non-subsidiaries enterprises as it implied in article 9 OCDE Convection Model

- What is the scope of consolidation;
- How to be held this consolidation;
- And how should the consolidated tax base is shared by MS.

The proposal also presents two options with the aim to enhance the competitive position of the European companies by giving them the possibility to compute their EU-wide profits accordingly to one set of rules and choose a the best environment that suits their business needs by elimination the tax distortions within the 28 tax systems and legislations.

The two main policy scenarios are: (1) an optional CCCTB which is a set of common rules for all EU companies as a consolidated tax base alternative to the 28 national tax systems which implies that the EU-resident companies permanent establishments would be entitled to apply the CCCTB for all groups ("all in all out"); (2) a compulsory CCCTB for EU-situated companies with permanent establishments owned by residents outside of the Union would be required to apply to CCCTB rules (COM 121/4, 2011).

It is clear, that the harmonization only involves calculating the tax base, which means that Member States will maintain their own legislation, except on corporate tax, and CCCTB system will introduce autonomous rules for calculating the tax base of companies.

Hence the basic concept of CCCTB is that the tax base should be computed by the MS, based on a formula that takes into account the following factors: geographic distribution of sales, labour factor and assets (Sousa, 2016).

2.3.3 – Alternatives to CCCTB

The road to truth has many turns, and of course, the EC would have to consider other options for corporate tax harmonization rather than CCCTB.

The Home State Taxation, or HST, is based on the mutual recognition, which has been adopted in the EU by the European Court of Justice, meaning that tax system of the MS of the parent company would oversee the determination and allocation of profits to subsidiaries and permanent establishments located in other MS. The group would be treated as a hole and taxed on consolidated profits regardless of the number or legal forms of secondary enterprises (Lang & Piston & Schuch & Staringer, 2012). In the nutshell, HST indicates that EU companies would be allowed to determine and compute consolidated profits on their EU-broad activities under the taxation policy of their own MS, in short, where the head-quarters is established (Plasschaert, 2002).

On the other side of HST proposal, the Common Consolidated Tax Base, or CCTB states that there is a demand to harmonize the set of rules determining the tax base for those companies that choose their cross-border profits consolidation, removing the tax base competition for enterprises headquarters, giving a wider option for profit taxation within the EU. The CCTB could only be applied to multinational companies, which could do more harm than good, due to the fact that this type of tax would not be applied to smaller companies, because they don't have cross-border subsidiaries. Hence, the CCTB will only applies to business that would have cross-border transactions' and small and medium enterprises (with no subsidiaries) would have to be taxed accordingly with the MS tax policy, which would bring more distortions and tax erosion (Giannini, 2002).

Following the same premises of the CCTB, the European Union Corporate Income Tax (EUCIT) is a similar to the previous type of corporate tax proposal; it assumes that the profit taxation would be delivered to the EU, instead of the MS Governments (Pîrvu, 2012). The last alternative presented by the EC is known as the Compulsory Harmonized Tax Base, or CHTB, which would be mandatory for all MS, suggesting a unique corporate tax base to all EU companies, thus, the elimination of all National tax legislation of the MS.

2.3.4 – Advantages and Disadvantages of CCCTB

As we already said before, CCCTB objective attempts to eliminate the tax distortions and erosions between the MS and also reach a common ground in the EU, considering that we are taking into account 28 different tax systems throughout Europe.

The MS have already introduced provisions to protect their tax bases against profit shifting of multinationals, such as the denial of cross border loss relief and controlled foreign company legislation. The CCCTB would resolve existing transfer pricing problems, deal with the lack of cross border loss return by allowing for the consolidation of profits and losses and would simplify many international restructuring operations. It would also discredit many situations of double taxation as well as the risk reduction of MS tax laws, which are unsuited (EY, 2010).

One can assume that the CCCTB is dependable with a tax raising revenues for MS, but that it also has the specific objective of achieving of efficiency and competition within the EU (Freedman & Macdonald, 2008).

Although, there are some disadvantages in the implementation of the CCCTB proposal such as, the great uncertainty to business owners and what that would lead in the

companies' future and it own responsiveness, the complexity of the CCCTB introduction in the MS, the cost of transition to CCCTB and the uncertainty toward new tax distortions and erosions (EY, 2010).

2.3.5 – Studies made about CCCTB

Since the introduction of idea of a Common Consolidated Tax Base in 2001, there were some studies made by specialists on corporate tax system legislation in order to understand the implementations of CCCTB in the EU and the implications that it thrives.

The European Tax Analyzer is a computer-based model for the computation and comparison of the tax burdens of companies including their shareholders located in different countries over a period of ten years. All related tax provisions, kind of taxes, tax rates and tax bases are taken into consideration. The effective average tax burden is derived by simulating the progress of a firm over a ten-year period. It is expressed as the difference between the pre-tax and the post-tax value of the enterprise at the end of the tax year. The calculations take specific combine of assets and liabilities as a starting point. In order to determine the periodical post tax profits, the tax liabilities are derived by taking into account the tax base system in great detail. Due to the multi-period set-up, the time effects of taxation can explicitly be accounted for. The model is calibrated according to balance sheet and profit and loss account data of European firms. The conclusion of this study was that a simple harmonization on tax accounting rules in the EU would be enough and advice that more studies on CCCTB should be taken based on the convergence of the nominal tax rates on profits (Oestreicher & Spengle, 2007).

Other study was made considering the CCCTB by Devereux and Loretz whom analysed large database of unconsolidated company data to estimate the effect of the change in corporate income tax collections in each MS. The records used are from the period between 2000 and 2004 which mainly analyse the effect of both group loss relief and certain apportionment factors where the main conclusion, if the companies are under CCCTB, is that there would be a significant range of changes in corporate tax revenues, between -18% to 60% along the MS (Devereux & Loretz, 2008).

The Fuest-Hemmelgarn-Ramb analysis uses two different databases to estimate the effect of CCCTB on the tax base of Member States. Although, this study only uses German companies, approximately 2.000 parent companies and 6.000 subsidiaries in other MS (considering the EU with only 15 countries) between 1996 and 2001, at company-level foreign direct investment and balance sheet information from the German parent shows that formula apportionment will tend to move taxable income from smaller countries to larger countries. The assess that adding cross-border loss offsets created after the adoption of CCCTB would reduce most national tax bases and the overall corporate income tax base decline would be approximately 20%. Similar to the Devereux & Loretz study, this study examines the effect of both formulary apportionment and loss offsets with a sample of actual companies, and finds significant variation across Member States (- 74% to +112%) in the change to the corporate tax base. The conclusion taken from the study is that it limits its findings to changes in the tax base rather than changes in tax revenues. To the scope the redistribution shifts taxable income from lower tax rate countries to higher tax rate countries, the overall effect on EU revenues would be less than the 22% reduction in the EU overall.

It is important to note that, because the data is from a sample and not aggregated to total Member States' tax bases, the overall EU change is a simple un-weighted average (Fuest & Hemmelgarn & Ramb, 2007).

The van der Horst, Bettendorf and Rojas-Romagosa analysis uses a general equilibrium model to estimate the welfare effects from a CCCTB inclusion scenario. The examination uses a highly-stylised general equilibrium model of 17 EU MS and assumes that each MS has a multinational corporation parent that has subsidiaries in each of the other 16 MS. The analysis concludes that CCCTB would only increase welfare by 0,02% of GDP (Van der Horst & Bettendorf & Rojas-Romagosa, 2007).

In 2011, Ernst & Young commissioned by the Irish Department of Finance, released a study on CCCTB in which concludes that is likely to be the equal to tax system in force in the EU. Depending on the CCCTB scenario, some MS would have greater corporate tax revenues while MS would lose significant corporate tax revenues due to the specific formula apportionment factors, whether the CCCTB will be voluntary or mandatory and the exact MS applying the CCCTB. The main objective of the CCCTB, as explained before is to erase the distortions of tax systems in the EU, however in this study, the distortions, in a short-run term would be reduced but the CCCTB could create its own distortions due to the new tax induced economic distortions caused by the factor shifting (EY, 2011).

The studies on CCCTB, shows us there is an early mistrust on the implementation of CCCTB in the EU, due to the complexity of switching from the 28 MS tax system and legislation to an unique tax system for all European countries.

3 – Method and Data

As we mentioned in the Introduction of this dissertation, the research question that we propose is: what could be the impact on Portuguese companies and enterprises gain from the introduction of CCCTB in their country?

Taking into consideration what has been introduced above and the research question at hand, for the remaining of this dissertation, we will attempt to frame the theoretical theme of tax harmonization in the European Union within the Single Market Act that applies to all Member States, including Portugal.

3.1 – The Formula of CCCTB and Variable Explanation

As it is shown in the Directive's Proposal[25] on CCCTB should be measured for as a share among a groups of members in every tax year, considering the apportioned share of a group member A, giving equal weight to the factors of *sales*, *labour* and *assets* (COM 121/4, 2011):

$$Share\ A = \left(\frac{1}{3}\frac{Sales_A}{Sales_{Group}} + \frac{1}{3}\left(\frac{1}{2}\frac{Payroll_A}{Payroll_{Group}} + \frac{1}{2}\frac{No.of\ employees_A}{No.of\ employees_{Group}}\right) + \frac{1}{3}\frac{Assets_A}{Assests_{Group}}\right) \times Consolidated\ Tax\ Base$$

Formula 1 – Directive's Proposal for CCCTB formula

The consolidated tax base of a group can be shared when it is positive and also the calculations for consolidation can only be done at the end of the group tax year end.

[25] Chapter XVI – Apportionment of the consolidated tax base, Article 86 – General Principles

Hence, the CCCTB calculation is based on three main factors (sales, labour – payroll and number of employees, and assets), as it was shown in the formula above, which will be explain in the following paragraphs.

The *sales factor* shall consist of the total sales of group member, including a permanent establishment which is deemed to exist by virtue of the second subparagraph of Article 70(2)[26] as its numerator and the total sales of the group as its denominator. The Sales factor is the amount of total sales of goods and services after discounts and returns, excluding VAT, and other taxes and duties, exempt revenues, interest, dividends, royalties and proceeds from disposal of fixed assets shall not be included in the sales factor, unless they are revenues earned in the ordinary course of trade or business. Intra-group sales of goods and supplies of services shall not be included. Sales are obliged to be valued accordingly to Article 22[27]. Sales of goods and services should be included in this factor of the group member located in the MS, as well as if there is no subsidiary in the MS where the goods and services are shipped out by a third country, they are sales to be included in the total amount of sales all group members in the same proportion to their labour and assets factors. The same should be considered in the case if there is more than one subsidiary within the MS-borders (COM 121/4, 2011).

[26] Article. 70 of the Directive Proposal COM 121/4, 2011 – "*Within a period of two years, if there is a business reorganization or a series of transactions between members of a group, all the assets of a tax payer are transferred to another MS and the asset factor is change the following rules should be applied, in the five years that follow the transfer, the transferred assets shall be attributed to the asset factor of the transferring taxpayer as long as a member of the of the group continues to be the economic owner of the assets. If the taxpayer no longer exists or no longer has permanent establishment in the MS from which the assets were transferred it shall be deemed to have a permanent establishment there for the purpose of applying the provisions of this Article.*"

[27] Article 22 of the Directive Proposal COM 121/4, 2011 – "*For calculating the tax base the following transactions should be measured: (1) the monetary consideration for the transaction…; (2) the market value where the consideration for the transaction is wholly or partly non-monetary; (3) the market value in the case of non-monetary gift received by the tax payer; (4) the market value in the case of non-monetary gifts made by a taxpayer other than gifts to charitable bodies; (5) the fair value of financial assets and liabilities held for trading; (6) the value for tax purposes in the case of non-monetary gifts to charitable bodies; Also the tax base, income and expenses shall be measured in Euros during the tax year or translated in Euros on the last day of the tax year (…). This shall not apply to taxpayer located in a MS which has not adopted the Euro or if all group members are located in the same MS and not adapted the Euro as its currency.*"

The *labour factor* consist, one half, of the total amount of the payroll of a group member as its numerator and the total amount of the payroll as hole as its denominator, and the other half, by the number of employees of a group member as its numerator and the number of employees of entire group as its denominator, where an individual employee in included in this factor of a group member and the amount of payroll relating to said employee shall also be allocated to the labour factor of said group. The number of employees is measured at the end of the fiscal year, and its definition is determined by the national law of the MS where the employment is exercised. This factor considers that the all employees receive remuneration for their work as well as their employment is under the control and responsibility of a group member and the amount of payroll relating to them should be included in the labour factor. This rule only applies if the employment is uninterrupted for a period that lasts 3 months, at least, and those employees represent at least 5% of the all number of employees of the group. The labour factor should include that are not employed directly by the group but perform a similar to those who are employed. The *payroll* is consisted by the cost of salaries, wages, bonuses and all other employment compensation as well as the pensions and social security costs and they should be deductible by the employer in the tax year by the value of such expenses (COM 121/4, 2011).

Finally, an asset can be included in the asset factor of the economic owner, and if the asset is not used by the owner, it should be included as an asset factor of the group that actually uses it. However, this rule only applies if the asset represents more than 5% of the value for tax purposes of all fixed tangible assets of the group that uses them. Group leases and rented assets are to be not included (COM 121/4, 2011).

3.2 – Sample Description

The sample that will be used for the analysis, taking into consideration the research question mentioned above, are constituted by 26 companies with headquarters in Portugal, with facilities in EU countries. The data retrieved is from the time array between 2010 and 2014. All of the companies have sales in Portugal, most of them trade in the European Market and some of them have business outside the Single Market. The total business value traded of these 26 enterprises, considering the 5 years, is a total of 2.912 Million Euros, where 16,74% (487 Million Euros) are sales to other European Union nations and the total of 2.233 Million Euros, representing 76,69% of total sales, are revenues from Portugal.

The sample has different types of business such as: 13 companies sell IT goods and services (representing 50% of the total amount of companies), 4 are in the tradable mechanic parts business, 2 are business management companies. The other 6 companies' main areas of enterprise are in Ship Towage, Food, Truck Springs, Pharmaceuticals, Waste Treatment, and Drilling business. Finally the last of the 26 companies is a Public Hospital.

3.3 – Dependent Variables

To analyse the impact of the introduction of CCCTB as the main tax system in Portugal for the sample described above, we computed two different econometric models:

(1) – The logarithm of the companies' tax base, using CCCTB – *Log TB CCCTB*, and

(2) – The logarithm of the companies' tax income, using CCCTB – *Log TI CCCTB*.

For both cases, we considered, the tax base and income equal or greater than zero due to the fact that we cannot compute the logarithm of a negative input, considering that it is mathematical impossible to compute logarithms, with the dependent variables equal or less than zero.

3.4 – Independent Variables

We expect to use within the econometric models, the following independent variables, shown below:

[Insert Table 1]

The *Log RV Portugal* variable represents the logarithm of the total sales in Portugal at the end of the tax year and has an expected positive sign due to the impossibility of the revenue from sales cannot be negative as well as its logarithm. Also the higher sales volume the tax fraction will be bigger in Portugal. The variables *Log RV EU* and *Log VN Rest World* have the same expected sign as the first presented variable as well as the same explanation.

The *N Employ PT* variable represents the number of people that are employed and receive a salary, as compensation for their work in Portugal at the end of the tax year, has an expected positive sign, because it is impossible to have negative number of workers in a firm.

The *Assets PT* variable represents the total assets at the tax year end on the company's financial statements; it should have a positive sign due to the impossibility of an enterprise value on assets in the balance sheet, be less than zero.

The *Services* is a dummy variable represents if the main business of a company is in services sector (1) or not (0). The firms focused on the services sector should have a positive sign because they are linked with a higher Gross Value Added and profitability ratios.

The *Sal PT* variable is the logarithm of the total salaries in Portugal at the end of each tax year, which has an expected positive sign due to the fact, there is no such thing as negative salaries.

Finally, the *Shareholder PT* is a dummy variable that shows us if the company is owned by a majority of Portuguese capital (1) or not (0), which has an expected positive sign because foreign shareholders would try to profit shift for the companies of the group.

In order to continue the studies on the econometric models, a multicollinearity test was made and showed that, the variables *N Employ PT*, *Assets PT* and *Sal PT* have an index higher than 0,8[28]. The following table demonstrates the variables that are fit to be used in the econometric models[29]: for the dependent variables showed no presence of multicollinearity.

[Insert Table 2]

[28] Multicollinearity index between the sample variables should be lower than 0,8, otherwise the results will be spurious

[29] The multicollinearity index of (RV PT; RV Rest World) was not considered in the models due to the high collinearity presented

Also, to continue the study on the econometric models we used the *Breusch-Pagan*[30] test with robust standard errors and *Wald*[31], whereas both tests came back with a p-value equal to 0,000, meaning, there is no presence of heteroskedasticity in the regressions.

Hence, the premises to compute the econometric models, with the variables that show no evidence of multicollinearity are made and we are able to begin the sample study to search if CCCTB would bring any tax harmonization at all.

The early Ordinary Least Square models computed showed some robust limitations (see Appendix – Tables 3 to 6); therefore we performed a Hausman test, which is basically a test of whether the loss of efficiency is worth removing the bias and inconsistency of the OLS estimators, concluding that we should use the OLS, with Random Effects (RE) due to the computed p-value is equal to 0,7 .

[30] To test the presence of heteroskedasticity within the models
[31] To test the maximum likelihood

4 - Results

4.1 – Descriptive

As we mentioned before, from the data retrieved of the yearend financial statements of the 26 firms, we were able to retrieve the tax base and income under the Portuguese tax legislation, from 2010 and 2014, are shown below in the plot:

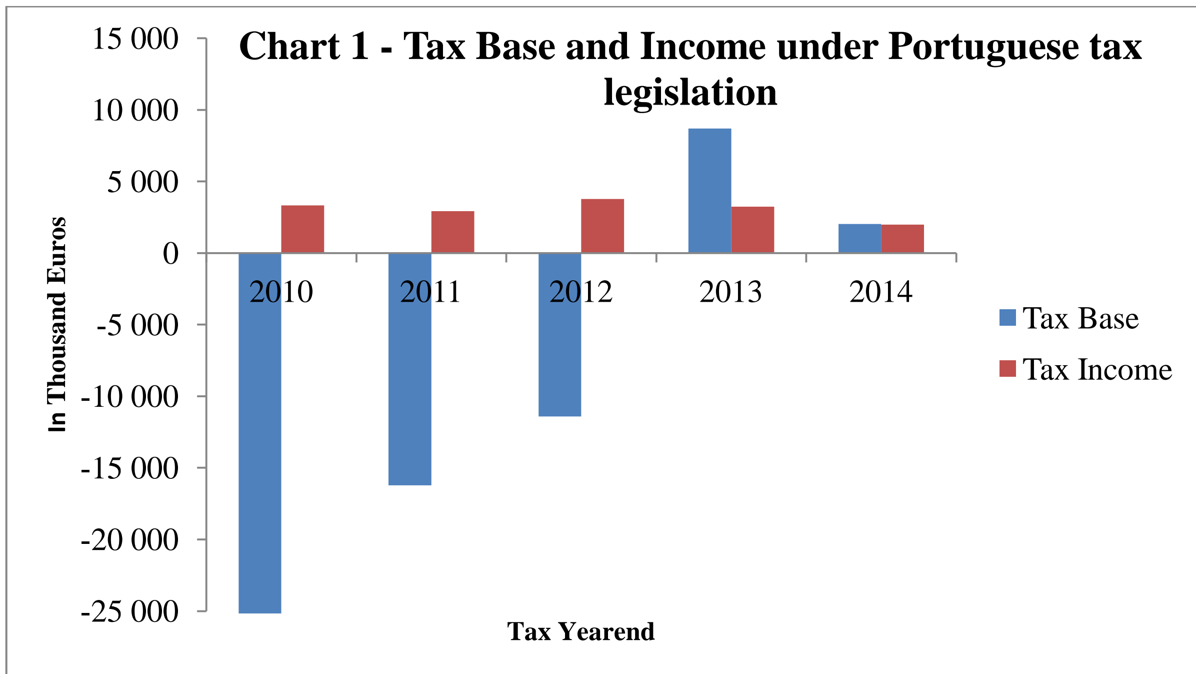

Chart 1 – Tax Base and Income under Portuguese Tax Legislation (source: sample – see Appendix, table 7)

Now we present the plot for the same sample, but using the CCCTB calculations, as follows:

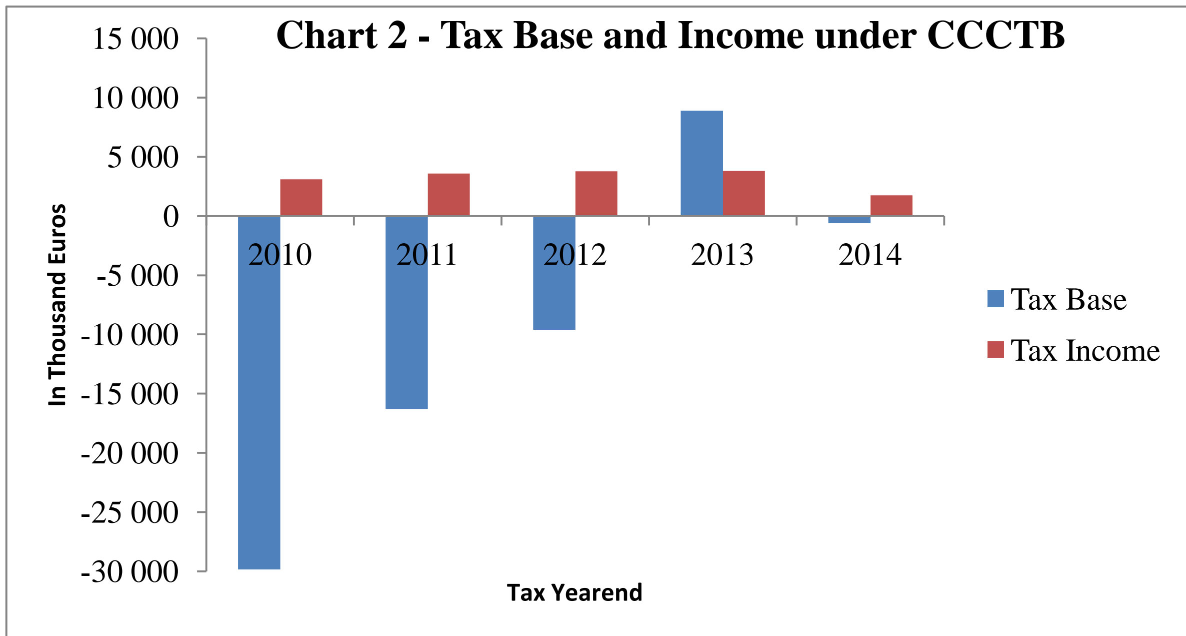

Chart 2 – Tax Base and Income under CCCTB (source: sample – see Appendix, table 8)

Accordingly to the sample retrieved, the Tax Base between 2010 and 2013 has, relatively the same figures both under the Portuguese Tax Legislation and under CCCTB calculation. There is a slight difference, but not material, in 2014, where the Tax Base under Portuguese Legislation is positive and under CCCTB is negative.

Regarding the tax income, we can observe that the differential has no material differences between both charts.

Hence, it is possible to say that the introduction of CCCTB, accordingly to the sample, has a minimal value deferential considering the Tax Base and Income both under the Portuguese Tax Legislation and CCCTB.

4.2 – Econometric Models

The regressions were computed using the OLS, with Random Effects (RE). Primarily, we compute the *LOG TB CCCTB* regression (3) with the *LOG RV PT*, and the dummy variables *Services* and *Shareholder PT,* which results are shown in the next table:

(3) $\log TB\ CCCTB = \alpha_0 + a_1 \log RV\ PT + \gamma_1\ Services + \gamma_2\ Shareholder\ PT\ \ + v_1$

[Insert Table 9]

From the results of this regression (3) we observe that, on average, when there is an increase of 1% of the Revenues in Portugal the Tax Base of CCCTB increases by 0,79%, at 1% statistically significance level. When the companies main activity is from the services sector, we expected that coefficient would be positive, although in this regression we find that has a negative impact on CCCTB with a 5% statistically significance. The dummy *Shareholders PT* has statistical impact on the dependent variable, even though its coefficient it's positive, which shows a positive impact.

Computing the same regression (4), but as the independent variable *LOG RV EU*, with dummy variables *Services* and *Shareholder PT* the results are:

(4) $\log\ TB\ CCCTB = \alpha_0 + a_1 \log RV\ EU + \gamma_1\ Services + \gamma_2\ Shareholder\ PT + v_2$

[Insert Table 10]

Regression (4), shows that the Revenues in the EU and Services sector enterprises have no statistical impact results on the Tax Base of CCCTB. However a Portuguese shareholder majority increases the logarithm of CCCTB Tax Base by 0,80.

Regression number 5 will show the results of the regression *LOG TB CCCTB* with the independent variable *LOG RV RW*, and *Services* and *Shareholder* as dummies:

$$(5)\ \log TB\ CCCTB = \alpha_0 + a_1 \log RV\ RW + \gamma_1\ Services + \gamma_2\ Shareholder\ PT\ + v_1$$

[Insert Table 10]

The results of this regression (5) we observe that, on average, when there is an increase of 1% of the Rest of World's Revenues, the Tax Base of CCCTB goes up by 0,27%, at 5% statistically significance level and presents a positive sign, as expected. When the majority of the Shareholders is Portuguese, we expect that coefficient would be positive, which it is, the CCCTB Tax Base Logarithm increases by 0,71, with 10% statistically significance. The dummy *Services* have no statistical brunt on the dependent variable, even though its coefficient it's negative; hence, it is the opposite of your expectation.

Moving along, we used the other proposed logarithm, *Log TI CCCTB*, in regression (6) with the independent variable *Log RV PT* and the dummy variables *Services* and *Shareholders PT*, resulting in:

$$(6)\ \log\ TI\ CCCTB = \alpha_0 + a_1 \log RV\ PT + \gamma_1\ Services + \gamma_2\ Shareholder\ PT + v_2$$

[Insert Table 11]

This regression (6) shows us that, on average, when there is an increase of 1% of the Revenues in Portugal the Tax Income of CCCTB increases by 0,79%, at 1% statistically significance level (coefficient with a positive sign as expected). The companies that focus their main activity in the services sector, the prospect was that coefficient would be positive, although in this regression we find that has a negative impact on CCCTB Tax Income with a 5% statistically significance. The dummy *Shareholders PT* shows no sign of statistical brunt.

Regression number (7), uses the dependent variable the *Log TI CCCTB*, but as the independent variable the logarithm of the European Revenues, with dummy variables *Services* and *Shareholder PT*, and the results are:

$$(7)\ \log TI\ CCCTB = \alpha_0 + a_1 \log RV\ EU + \gamma_1\ Services + \gamma_2\ Shareholder\ PT + \upsilon_2$$

[Insert Table 12]

This table 12 shows us, that the Revenues in the EU and Services sector enterprises have no statistical impact results on the Tax Income of CCCTB. However a Portuguese shareholder majority increases the logarithm of CCCTB Tax Base by 0,81, presenting a positive sign, as expected, with a statistical impact of 5%.

The last regression (8) will show the results of the econometric model of *LOG TI CCCTB* with the independent variable *LOG RV RW* and *Services* and *Shareholder* as dummies:

$$(8)\ \log TI\ CCCTB = \alpha_0 + a_1 \log RV\ RW + \gamma_1\ Services + \gamma_2\ Shareholder\ PT\ + \upsilon_1$$

[Insert Table 12]

From the results of this regression (8) we bring to a close that, on average, when there is an increase of 1% of the Revenues in the Rest of the World, the Tax Income of CCCTB increases by 0,27%, at 5% statistically significance level, and presents a positive sign as expected. When the majority of the Shareholders is Portuguese, we expect that coefficient would be positive, which it is and increases the CCCTB Tax Income Logarithm by 0,70, with 10% statistically significance. The dummy *Services* have no statistical evidence on the dependent variable, even though its coefficient is negative; as a result it’s the opposite of your expectation.

5 – Conclusions

We have seen over the years, since the creation of the ECSC until the UE, on the subject of tax harmonization, there have been many reports and studies that addressed this issue.

Throughout the lifespan, of what we call today the European Union, the tax harmonization theme has been one of the main action focuses in order to consolidate the European Single Market.

Since 2001, the EC enforced there should be a common corporate tax base within the MS, culminating in 2011 with the directive's proposal presentation of the CCCTB in order to pursue the objective of plenitude of the Single Market. However, studies stress that, CCCTB would not bring any significant changes to the 28 tax systems and legislations of the MS.

Although, the CCCTB is an ambitious project, before the actual directive presentation, the developed studies shows us that there is not much to gain from the introduction of this directive, considering that the advantages that CCCTB would bring short-run advantages and the main idea of this directive is to introduce a corporate tax harmonization in the long-run.

The sample retrieved from the financial statements of 26 different Portuguese companies proves us that the difference between the tax income and tax base of CCCTB and the actual Portuguese legislation is reduced and would not bring a resourceful improvement, regarding the corporate tax base.

Hence, and considering that CCCTB is relatively on an early stage of development, the UE should pursue this objective and continuously present new proof that this proposal could work within the MS, in the coming years, focusing on the main goal which is the corporate tax harmonization and the establishment of a common corporate tax legislation in the 28 MS of the EU.

References

Abreu, Jorge Manuel Coutinho de (1996), *"Da empresarialidade – As Empresas no Direito"*, Edições Almedina, Coimbra, Portugal;

Ahmad, Aqueil (2013). *New age globalization: meaning and metaphors*, St.Martin's Press LLC, New York, USA;

Antunes, José Engrácia (2002), *"Os Grupos de Sociedades"*, Edições Almedina, 2.ª Edição, Coimbra, Portugal;

Bittmannová, Bianka (2016), *The current state of the tax harmonization in the European Union*, International Journal of Novel Research in Marketing, Management and Economics, Vol. 3, Issue 1, Indira Nagar, India;

Boer, M.J. (2012), "*A few comments on the CCCTB-directive*", Max-Planck-Institute for Tax Law and Public Finance, Munich, Germany;

Commission of the European Communities (1992), *Report of the Committee of independent experts on Company taxation*, Office for the Official Publications of the European Communities, Luxembourg;

Commission of the European Communities, (1992), *Treaty on European Union*, Official Journal of the European Communities No C 191/106, Maastricht, Belgium;

Commission of the European Communities, 1997, *A package to tackle harmful tax competition*, Communication from the Commission to the Council – COM (97) 495 final, Brussels, Belgium;

Commission of the European Communities (2001), *A strategy for providing companies with a consolidated corporate tax base for their EU- wide activities*, Communication from the Commission to the Council COM (2001) 582 final, The European Parliament and the Economic and Social Committee, Brussels, Belgium;

Commission of the European Communities (2003), *An internal market without company obstacles achievements, ongoing initiatives and remaining challenges* – COM (2003) 726 final, Brussels, Belgium;

Commission of the European Communities (2005), "*The contribution of taxation and customs policies to the Lisbon Strategy*" – COM (2005) 532 final, Brussels, Belgium;

Commission of the European Communities (2006), "*Coordinating direct taxation systems of member states in the internal market*" – COM (2006) 823 final, Brussels, Belgium;

Commission of the European Communities (2010), *"Towards a Single Market Act"* – COM (2010), 608 final, Brussels, Belgium;

Commission of the European Communities (2010), *"Europe 2020 – A strategy for smart, sustainable and inclusive growth"* – COM (2010) 2020 final, Brussels, Belgium;

Commission of the European Communities (2011), *Proposal for a Council Directive on a Common Consolidated Corporate Tax Base (CCCTB)*, COM (2011) 121/4, European Commission, Brussels, Belgium

Cordeiro, António Menezes (2005), *"Direito Europeu das Sociedades"*, Edições Almedina, 2.ª Edição, Coimbra, Portugal;

Devereux, Michel P. & Loretz, Simon (2008), *“The effects of EU apportionment on corporate tax revenues”*, Fiscal Studies, Vol.29 No.1, London, England, United Kingdom;

Doward, Jamie (2014), *How Apple’s Cork HQ became the center of a bitter global war over corporate tax avoidance*, The Observer, 5 October;

EY – Ernst & Young (2010), *“Study on the Economic and Budgetary Impact of the Introduction of a Common Consolidated Corporate Tax Base in the European Union”*, available on http://taxpolicy.gov.ie/wp-content/uploads/2012/11/Opening-statement-on-CCCTB-for-Oireachtas-Committee-14112012.pdf, accessed on 16 August 2016;

EY – Ernst & Young (2011), *“Study on the Economic and Budgetary impact of the Introduction of a Common Consolidated Corporate Tax Base in the European Union”*, available on http://taxpolicy.gov.ie/wp-content/uploads/2011/06/EY-Report-CCCTB-for-Commissioner-Semeta-4-Jan-2011.pdf, accessed on 15 September 2016;

Freedman, Judith & Macdonald, Graeme (2008), “*The tax base for CCCTB: The role of Principles*”, Oxford University Center for Business Taxation, Oxford, England, United Kingdom;

Fehr, Hans, Rosenberg, Christoph and Wiegard, Wolfgang (1995), *Welfare effects of Vallued-Added Tax Harmonization in Europe*, Springer-Verlag, Berlin, Germany

Fuest, Clemens & Hemmelgarn, Thomas & Ramb, Fred (2007), *“How would the introduction of an EU-wide formula apportionment affect the distribution and size of the corporate tax? An analysis based on German multinationals”*, International Tax and Public Finance, Springer, Berlin, Germany;

Forry, John I. And Lerner, Perry A (1976), *Taxation Multinational Enterprises: Basic issues of international income tax harmonization*, American Bar Association, Washington D.C., United States of America;

Giannini, Silvia (2002), "*Home State Taxation vs Common Base Taxation*", Bologna, Italy;

James, Simon (2002), *Taxation: Critical Perspectives on the World Economy, Volume 2*, Routledge, New York (NY), United States of America;

Kovács, László (2006), *The European Commission's business taxation agenda*, Oxford Center for Business Taxation public speech, Oxford, England, United Kingdom;

Lang, Michael & Pistone, Pascal & Schuch Josef & Staringer, Claus (2012), "*Introduction to European Tax Law: Direct Taxation*", Spiramus, Biggleswade, United Kingdom;

Lang, Michael & Pistone, Pascal & Schuch Josef & Staringer, Claus & Storck, Alfred (2013), "*Corporate income taxation in Europe –The Common Consolidated Corporate Tax Base (CCCTB) and Third Countries*", Edward Elgar Publishing Limited, Cheltenham, United Kingdom;

Lapavitsas, Costas & Eustache, Kouvélakis (2012), *"Crisis in Europe"*, Preface, Verso Books, London, England, United Kingdom;

Medved', J, Nemec, J, et al. (2011), *Verejné financie*, Sprint dva, Bratislava, Slovenia;

Oestreicher, Andreas & Spengel, Christoph (2007), *"Tax harmonization in Europe – The determination of Corporate Taxable Income in the EU Member States"*, Discussion Paper No. 07-035, ZEW Discussion Paper from ftp://ftp.zew.de/pub/zew-docs/dp/dp07035.pdf, Mannheim, Germany;

Plasschaert, Sylvain (2002), "*The EU consolidated income tax revised*", Presentation at CESifo Conference on Corporate and Capital Income Taxation in the EU, Center for Economic Studies & Ifo Institute for Economic Research (CESifo), Munich, Germany;

Pinheiro, Gabriela (1998), *Fiscalidade Directa na União Europeia*, Coimbra Editora, Porto, Portugal;

Pîrvu, Daniela (2012), *Corporate Income Tax Harmonization in the European Union*, Palgrave Macmillan, New York (NY), United States of America;

Rocha, Luís (2006), *A harmonização comunitária do imposto sobre as sociedades: realizações e perspectivas*, Faculdade de Economia do Porto, Porto, Portugal;

Robson, Peter (1980), *The Economics of International Integration*, Routledge, New York (N), United States of America;

Stiglitz, Joseph (2013), *Globalization isn't just about profits. It's about tax too*, The Guardian, 27 May England, United Kingdom;

Segré, Claudio (1966), *The Development of a European Capital Market* or *The Segré Report*, European Economic Community, Brussels, Belgium;

Sousa, João (2011), *As vantagens de um "IRC Consolidado Europeu"* Available in: http://www.jornaldenegocios.pt/por_arranjar/fiscalidade/detalhe/as_vantagens_de_um_quotirc_consolidado_europeuquot.html, accessed in 30 June 2016, Lisbon, Portugal;

Tanzi, Vito and Bovenberg, A. Lans (1990), *Is there a need for harmonization capital income taxes within EC Countries?*, International Monetary Fund, IMF Working Paper, Washington D.C., United States of America;

The ESCS Treaty (1951), *Treaty establishing the European Coal and Steel Community*, Paris, France;

The Treaty of Rome (1957), Treaty establishing the European Economic Community – EEC Treaty available in http://ec.europa.eu/archives/emu_history/documents/treaties/rometreaty2.pdf, accessed on 27 March 2016 Rome, Italy;

The Single European Act (1986), available on http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=URISERV:xy0027&from=EN, accessed on 30 March 2016, Luxemburg;

Van der Horst, Albert & Bettendord, Leon & Rojas-Romagosa, Hugo (2007), *"Will corporate tax consolidation improve efficiency in the EU?*, CPB Documents 141, CPB Netherlands Bureau for Economic Policy Analysis, Haag, Netherlands;

Appendix

Table 1 – Independent Variable Description

The description on the Independent Variables that were considered from the sample.

Variable	*Type/Unit*	*Description*
RV Portugal	Logarithm of total revenues in Portugal	The log of the total amount of revenue of the companies at the end of every tax year in Portugal
RV EU	Logarithm of total revenues in EU-countries	The total amount of revenue of the companies at the end of every tax year in EU-countries
VN Rest World	Logarithm of total revenues outside of the EU	The total amount of revenue of the companies at the end of every tax year outside the EU
N Employ PT	The number of employees in Portugal	The of the total amount of employees that are hired in a firm at the end of every tax year
Assets PT	Discrete	The value of the total assets of a company at the end of the fiscal year in Portugal
Services	Dummy	1 if the company main business is in services sector, 0 otherwise (agriculture or factory)
Sal PT	Logarithm of the cost of salaries in Portugal	The Log of the total amount of cost with salaries in the sample at the end of the tax year
Shareholder PT	Dummy	1 if the company the majority of shareholders is Portuguese, 0 otherwise

Table 2 – Multicollinearity Matrix

The Multicollinearity matrix between independent variables demonstrates no evidence of strong correlations; hence, multicollinearity is not probable to lead to estimation problems.

	RV PT	RV EU	Services	Shareholder PT	RV Rest World
RV PT	1,0000				
RV EU	0,0868	1,0000			
Services	0,1121	-0,3628	1,0000		
Shareholder PT	0,2593	-0,1656	0,2701	1,0000	
RV Rest World	0,9591	0,3527	0,0167	0,2071	1,0000

(*Source: sample*)

Table 3 – Output I Log TB CCCTB (OLS – Robustness)

Early computed OLS econometric model of the Dependent Variable *Log TB CCCTB* has shown signs of Robust Limitations (independent variables: *Log RV PT*; Dummies *Services* and *Shareholder PT*):

Variables	Log TB CCCTB
Log RV PT	0,7844***
	(0,1042)
Services	-0,9140**
	(0,4283)
Shareholder PT	0,2794
	(0,3355)
Constant	1,2406
	(1,6586)
Observations	74
R-squared	0,4975

Robust standard errors in parentheses
*** p<0,01, ** p<0,05, * p<0,1

(Source: sample)

Table 4 – Output II Log TB CCCTB (OLS – Robustness)

Early computed OLS econometric model of the Dependent Variable *Log TB CCCTB* has shown signs of Robust Limitations (independent variables: *Log RV EU* and *Log RV RW*; Dummies *Services* and *Shareholder PT*):

Variables	Log TB CCCTB	Log TB CCCTB
Log RV EU	0,1292*	
	(0,0702)	
Services	-0,3099	-0,3955
	(0,3886)	(0,5488)
Shareholder PT	0,8266**	0,7811
	(0,3651)	(0,4876)
Log RV RW		0,2223**
		(0,0953)
Constant	10,8223***	9,7644***
	(0,9269)	(1,2094)
Observations	49	39
R-squared	0,1567	0,1833

Robust standard errors in parentheses
*** p<0,01, ** p<0,05, * p<0,1

(Source: sample)

Table 5 – Output III Log TI CCCTB (OLS – Robustness)

Early computed OLS econometric model of the Dependent Variable *Log TI CCCTB* has shown signs of Robust Limitations (independent variables: *Log RV PT*; Dummies *Services* and *Shareholder PT*):

Variables	Log TI CCCTB
Log RV PT	0,7883***
	(0,1054)
Services	-0,9042**
	(0,4348)
Shareholder PT	0,2653
	(0,3394)
Constant	-0,2243
	(1,6798)
Observations	74
R-squared	0,4944

Robust standard errors in parentheses
*** p<0,01, ** p<0,05, * p<0,1

(Source: sample)

Table 6 – Output IV Log TB CCCTB (OLS – Robustness)

Early computed OLS econometric model of the Dependent Variable *Log TI CCCTB* has shown signs of Robust Limitations (independent variables: *Log RV EU* and *Log RV RW*; Dummies *Services* and *Shareholder PT*):

Variables	Log TB CCCTB	Log TB CCCTB
Log RV EU	0,1302*	
	(0,0702)	
Services	-0,2988	-0,3642
	(0,3936)	(0,5518)
Shareholder PT	0,8233**	0,7654
	(0,3694)	(0,4919)
Log RV RW		0,2222**
		(0,0967)
Constant	9,3955***	8,3396***
	(0,9338)	(1,2315)
Observations	49	39
R-squared	0,1553	0,1790

Robust standard errors in parentheses
*** p<0,01, ** p<0,05, * p<0,1

(Source: sample)

Table 7 – Tax Base and Income under the Portuguese Tax Legislation (in thousand Euros)

Year	Tax Base	Tax Income
2010	-25.157,30	3.327,61
2011	-16.227,98	2.915,70
2012	-11.421,06	3.771,50
2013	8.686,01	3.243,48
2014	2.027,35	1.976,45

(Source: sample – confidential corporate financial statements)

Table 8 – Tax Base and Income under CCCTB (in thousand Euros)

Year	Tax Base	Tax Income
2010	-29.854,61	3.094,13
2011	-16.290,27	3.595,75
2012	-9.603,43	3.789,07
2013	8.880,71	3.806,02
2014	-594,21	1.751,80

(Source: sample – confidential corporate financial statements)

Table 9 – Output Regression (3) Log TB CCCTB (OLS – RE)

Output of OLS econometric model of the Dependent Variable *Log TB CCCTB* with RE (independent variables: *Log RV PT*; Dummies *Services* and *Shareholder PT*) – Regression 3:

Regression Variables	(3) Log TB CCCTB
Log RV PT	0,7926***
	(0,1146)
Services	-0,8656**
	(0,3747)
Shareholder PT	0,2842
	(0,3127)
Constant	1,1137
	(1,8220)
Observations	74
Number of Years	5

Standard errors in parentheses
*** p<0,01, ** p<0,05, * p<0,1

(Source: sample)

Table 10 – Output Regression (4) & (5) Log TB CCCTB (OLS – RE)

Output of OLS econometric model of the Dependent Variable *Log TB CCCTB* with RE (independent variables: *Log RV EU* and *Log RV RW*; Dummies *Services* and *Shareholder PT*) – Regression 4 and 5 respectively to the independent variable:

Regression Variables	(4) Log TB CCCTB	(5) Log TB CCCTB
Log VN EU	0,1224	
	(0,0784)	
Services	-0,2929	-0,5752
	(0,4358)	(0,5428)
Shareholder PT	0,8098**	0,7101*
	(0,3408)	(0,4205)
Log RV RW		0,2653**
		(0,1109)
Constant	10,9383***	9,5046***
	(1,1433)	(1,4869)
Observations	49	39
Number of Years	5	5

Standard errors in parentheses
*** p<0,01, ** p<0,05, * p<0,1

(Source: sample)

Table 11 – Output Regression (6) Log TI CCCTB (OLS – RE)

Output of OLS econometric model of the Dependent Variable *Log TI CCCTB* with RE (independent variables: *Log RV PT*; Dummies *Services* and *Shareholder PT*) – Regression 6:

Regression	(6)
Variables	Log TI CCCTB
Log RV PT	0,7935***
	(0,1147)
Services	-0,8629**
	(0,3748)
Shareholder PT	0,2819
	(0,3129)
Constant	-0,3028
	(1,8248)
Observations	74
Number of Years	5

Standard errors in parentheses
*** p<0,01, ** p<0,05, * p<0,1

(Source: sample)

Table 12 – Output Regression (7) & (8) Log TI CCCTB (OLS – RE)

Output of OLS econometric model of the Dependent Variable *Log TI CCCTB* with RE (independent variables: *Log RV EU* and *Log RV RW*; Dummies *Services* and *Shareholder PT*) – Regression 7 and 8 respectively to the independent variable:

Regression Variables	(7) Log TI CCCTB	(8) Log TI CCCTB
Log RV EU	0,1223	
	(0,0784)	
Services	-0,2888	-0,5754
	(0,4361)	(0,5429)
Shareholder PT	0,8079**	0,7036*
	(0,3409)	(0,4202)
Log RV RW		0,2669**
		(0,1109)
Constant	9,5351***	8,0879***
	(1,1472)	(1,4887)
Observations	49	39
Number of Year	5	5

Standard errors in parentheses
*** p<0,01, ** p<0,05, * p<0,1

(Source: sample)

Table 13 – Descriptive Statistics

Variable	*Obs.*	*Mean*	*Std. Dev.*	*Min.*	*Max.*
Log TB CCCTB	74	11	1,56	6,99	14,39
Log TI CCCTB	74	13	1,56	8,38	15,78
VN Portugal	130	$1{,}72 \times 10^{7}$	$4{,}09 \times 10^{7}$	0,00	$2{,}27 \times 10^{8}$
VN EU	130	$3{,}75 \times 10^{6}$	$8{,}94 \times 10^{6}$	0,00	$3{,}90 \times 10^{7}$
N Employ PT	130	330,85	889,58	0,00	4.356,00
Sal PT	130	$8{,}63 \times 10^{6}$	$2{,}06 \times 10^{7}$	0,00	$1{,}20 \times 10^{8}$
Assets PT	130	$3{,}22 \times 10^{7}$	$6{,}19 \times 10^{7}$	42.916,00	$4{,}68 \times 10^{8}$
Services	130	0,77	0,42	0,00	1,00
Shareholder PT	130	0,58	0,50	0	1,00
Log VN Portugal	125	15,50	1,54	10,70	19,24
Log Employ PT	120	4,14	1,80	0	8,38
Log Sal PT	120	14,63	1,68	10,65	18,60
Log VN EU	83	13,82	1,99	8,80	17,48
Log VN Rest World	66	13,08	2,02	6,83	17,29