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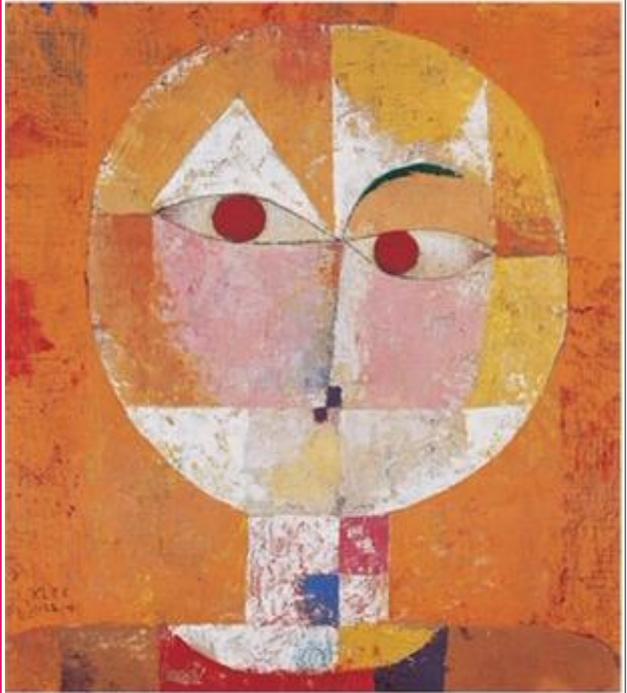
Tax harmonization of tax accounting procedures and income of industrial companies

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Abstract

This research aims to investigate the Tax harmonization of financial accounting procedures and the income of companies especially the industrial companies via comparative qualitative research methods. As a result, the different distribution of companies among the alternatives seems to be statistically significant (at the 0.05% level) in the case of deferred taxation, leasing. In conclusion, the implementation of a tax harmonization procedure creates coherence by which we can attain our tax objectives in a better way, at least for industrial companies.

Armonización fiscal de los procedimientos de contabilidad tributaria e ingresos de las empresas industriales

Resumen

Esta investigación tiene como objetivo investigar la armonización fiscal de los procedimientos de contabilidad financiera y los ingresos de las empresas, especialmente las empresas industriales, a través de métodos comparativos de investigación cualitativa. Como resultado, la distribución diferente de las compañías entre las alternativas parece ser estadísticamente significativa (al nivel de 0.05%) en el caso de impuestos diferidos, leasing. En conclusión, la implementación de un procedimiento de armonización fiscal crea coherencia mediante la cual podemos alcanzar nuestros objetivos fiscales de una mejor manera, al menos para las empresas industriales.

Palabras clave: Impuestos, Contabilidad, Procedimientos, Ingresos, Industrial.

1. INTRODUCTION

The harmonization of tax accounting procedures is the goal of accountants for many years, but the growth is not significant as expected for achieving it. The reason is there are obstacles in the way to create a constant set tax accounting standards for harmonization of tax accounting internationally. Though, the method of tax accounting harmonization has now arrived in a new stage. Since 2005, all the industrial companies which have shares registered in securities exchange commissions in Iraq have to make their detailed consolidated account statements in accordance with International Financial Reporting Standards (IFRS) issued by the International Accounting

Standards Board (IASB). This incident offers a chance for the researchers working in tax accounting to see the trends in tax accounting research on Tax harmonization of tax accounting. Some facts are shown in this figure explaining the current situation of country:
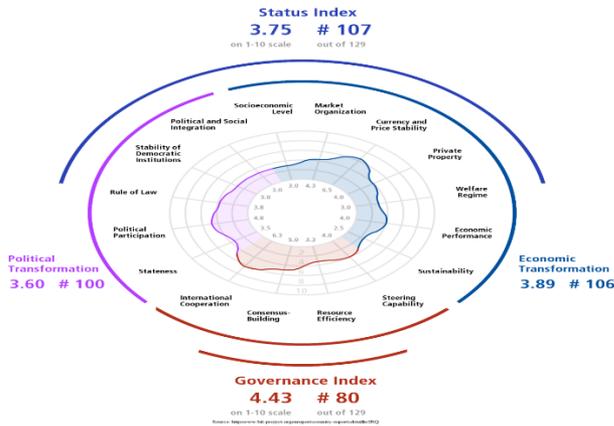
According to NAIR & FRANK (1981) many other issues in research of tax accounting, the tax accountants can make a theme earlier to the accountants in academia. There is a slight concern in the research of tax harmonization in academia before 1965. Most of the researches which studied Tax harmonization is conducted by working tax accountants, and has already published their research in academic and professional journals, for example Journal of Accountancy.

The formation of the International Accounting Standards Committee (IASC) in 1973, seems to be driven in improved attention in IAH research. Research done by NAIR & FRANK (1981) had discovered that major reasons behind the formation of IASC are to improve the global Tax harmonization of tax accounting principles. In reply, to the tax accounting researchers initiated the investigation to check the viability of attaining international tax harmonization along with the investigation of the reasons that caused variety in tax accounting. From 1973 till 1989, the development and progress were not steady to attain the objective of tax harmonization.

2. METHODOLOGY

Until now, two different methodologies for measuring the level of harmony have been developed: indices and statistical models. NAIR & FRANK (1981) promotes the idea of indices, and meticulously develops the H, C and I indices. The H index from which the I index is developed permits quantification of industrial concentration. Its use in the context of financial reporting Tax harmonization implies an analogy between accounting Tax harmonization and industrial concentration. The idea is that comparability increases when the result of the choice that companies make between alternative accounting methods becomes concentrated on one or only a limited number of methods. The H index adds the square of the relative frequencies of each of the applied methods. But, according to NAIR & FRANK

(1981), this use of the H index is worthy of some discussion. In any case, the main problem of this index is coping with multiple reporting or additional data in the notes regarding the results of alternative measurement methods. Each company (or financial report) must be assigned to one, and only one, alternative measurement method. This problem was solved with the C index developed by (HOROWITZ, 1995). The C index is able to take into account multiple reporting and reconciliation data in the notes to financial statements.

Some other adjusted indices based on these two indices have been subsequently developed to try to avoid some of the above limitations. The possibility of using a statistical modeling approach was hinted at by (NAIR & FRANK, 1981). They suggest that the level of harmony in the accounting practices adopted by companies in different countries may be assessed for a particular financial statement item by comparing `the observed distribution of companies between different methods with either a random distribution or some expected distribution' and that a suitable representation of a random distribution could be a distribution in which equal numbers of companies would be expected to use each of the available alternatives.

Given this approach, EMENYONU & GRAY (1992) propose the evidence of harmony would then be the existence of a significant difference between the observed and expected distributions, as measured by some appropriate significance test, for example, chi-square. Other authors such as ARCHER, DELVAILLE & MCLEAY (1995) developed statistical models that allowed them to measure the

level of harmony between countries in a period and the variations in the level of harmony (Tax harmonization) between two periods. HERRMANN & THOMAS (1995) recently developed a new statistical measurement technique.

Lastly, we want to point out that, in order to measure the process of Tax harmonization, most studies compare the value of the indices in the two periods to ascertain whether it has increased, or compare the statistical distribution of the two periods to see if the probability of being a non-random distribution has increased. Until now, only ARCHER ET AL. (1995) have analyzed whether the difference between the two periods is statistically significant using their statistical model approach, but nobody has analyzed whether the differences obtained with indices were statistically significant, which is one of the main aims of the present study.

3. RESULTS

From among the different models for measuring the level of Tax harmonization proposed in previous studies we have selected the C index. Although in some of the studies shown in Table 1 the authors used indices and statistical models as alternatives, as we have already mentioned, they are not. The suitability of each method depends, in our opinion, on the concept of Tax harmonization used and the objectives of the study. As we mentioned before, the use of a statistical

model implies a concept of the term harmony that supposes that the distribution of companies between the different alternatives is the same in all countries. On the other hand, the use of an index implies that maximum harmony is reached when all the companies in the sample select the same alternative (MCLEAY, NEAL & TOLLINGTON, 1999).

For the purpose of this study, we consider a sample of companies with very similar characteristics, aiming to test whether they concentrate on certain alternatives regardless of their countries of origin. We assume that global players operate in an international context and the characteristics of the users of their financial statements are similar independently of their national context. Our aim is not then to measure the level of harmony between the countries but the level of harmony of these kinds of companies, the global players, which are supposed to operate under similar circumstances. For this purpose, we have considered the C index as the most suitable method for our analysis (KRISEMENT, 1997).

The reason is that it allows us to measure the concentration of companies on one or some alternatives, while a statistical model would be more suitable if we wanted to test the level of harmony between the countries. This would be the case if the sample consisted of companies with a variety of characteristics, and was big enough to obtain significant results for every country. For the same reason, we have not broken down the index in the within-country and between-country comparability indices as other authors have done (ARCHER ET AL.,

1995), as we are not interested in measuring the level of harmony between countries but between specific companies, the so-called global players.

The bootstrapping procedure is a method for estimating the distribution of an estimator or test statistic by resampling one's data. This technique was developed by MEEK & SAUDAGARAN (1990) and has been appearing with increasing frequency in applied econometrics literature. However, as GARROD & SIERINGHAUS, (1995) points out, the theory of the bootstrap for many semi-parametric estimators of interest in econometrics (e.g. single-index models, sample-selection models, partially linear models) is still largely undeveloped. We consider that the characteristics of the bootstrapping test could make it an appropriate method if the value of a change in the C index from one period to another is considered significant in order to conclude whether there is (or not) a process of Tax harmonization.

If we find that the observed change is unlikely to come from the generated distribution, we conclude that the initial assumption is rejected. The distribution is generated by 1,000 interactions, where the accounting choices are randomly allocated using the binomial distribution, with the number of trials set to the sample size and the probability of success determined by the number of occurrences of that accounting method in the sample. The index is then calculated for each of the 1,000 interactions and 999 changes in the index are subsequently derived. The observed change in the index is then

compared with this generated distribution. The probability of the observed change not being greater than zero is given by the rank of the observed change when contrasted with the generated distribution (Noreen, 1992; BRADLEY & TIBSHIRANI, 1993).

Besides the previously described methodology for measuring the Tax harmonization process, we have also calculated the chi-square test, but not to ascertain whether there is a significant difference between the countries in one period, as in the case of previous studies, but rather to see whether there is a significant difference in the distribution of companies between alternative accounting methods in the two periods.

In fact, the chi-square test has not been used in previous research to test the significance but it is important to notice that its application, in this case, has a lot of limitations. One of the assumptions to apply this test is the independence between the two groups (in our case the same sample of companies in two different periods), so the probability of a company to select one alternative in the second period is independent of its selection in the first period. We are aware that it is not easy to assume independence between the two periods when selecting the alternatives since companies cannot easily shift from one method to another every year. Another limitation to apply the test is the requirement of at least one specific frequency for each of the alternatives. At any rate, and in spite of these limitations, we have considered it could be interesting to compare the results

obtained from this further test with those deriving from the bootstrapping test.

Bootstapping test

Tax Accounting	Total index 2008-10	Total index 2017-18	Boostrapping ranking out of 1000
Taxation delays	0.29	0.42	9
Tax base	0.35	0.48	25
Income	0.31	0.34	10
Political stability	0.33	0.52	1

Chi-Square test

Tax Accounting	x^2 Test	Significance level
Taxation delays	15.05	0.004
Tax base	6.10	0.48
Income	4.38	0.223
Political stability	9.07	0.059

Statistical analysis of the significance after calculating the value of the indices in the two periods, we used the bootstrapping test to see whether the observed increase in the value of the total index for the four accounting issues is statistically significant. There is not a statistical rule to determine the limits to consider a result as significant.

In this case, we have to consider that a difference, which is between the first ten differences of 1,000, could be regarded as a significant change in the value of the index, and not a random difference. It can be observed that the difference between the two values of the indices we obtained for the two periods could be considered higher than a random difference in all cases. Just as in the case of leasing, the result seems to be less significant but considering the 999 random differences the twenty-third can also be considered, in our opinion, as a non-random difference.

On the other hand, the results of testing the significance of the differences between the indices using the chi-square test. It can be observed that the different distribution of companies among the alternatives seems to be statistically significant (at the 0.05% level) in the case of deferred taxation, leasing. It should be noted that in the case of lease transactions and goodwill the criteria of the frequencies of the chi-square test were not followed. Accordingly, we had to consider only two alternatives in the case of leasing (the most widely used and the others) and three alternatives in the case of goodwill (the two most widely used and the others) and, therefore, the results must be examined with caution.

4. CONCLUSION

The main objectives of this paper are, on the one hand, to test whether there has been a Tax harmonization process in the accounting practices of Iraq, focusing on certain measurement criteria relating to specific controversial accounting issues. On the other hand, we want to propose a methodology for testing the significance of the results obtained.

With these purposes in mind, we have first described the situation of the research in the field of Tax harmonization by making a classification of the studies and a critical analysis of previous studies on material Tax harmonization (their data sources, methodologies and results). We consider one of the major deficiencies in the index-based methods of measuring Tax harmonization is that no test of significance has been included in previous research. In this paper, we propose a bootstrapping test of the C index as a way of measuring the significance of the change in its value.

For the empirical analysis, we consider a sample of industrial companies from Iraq and analyze their financial statements. Taking into account four accounting issues, we calculate the C index for the periods 2008 and 2018. Then, besides comparing the value of the index in the two periods for the four accounting issues, we analyze whether there is a statistically significant increase in the level of harmony between the two periods, firstly by analyzing the difference in the value of the index using a bootstrapping procedure, and second

by using the chi-square test. The core decisions we achieved from this research study can be summarized as follows: The idea of Tax harmonization used in this research is significant for knowing what practice is more appropriate to do empirical research. Directories and numerical models are not substituted because the implied idea of Tax harmonization is diverse. If we reflect that the C index is most adequate technique for testing the hypothesis and also the bootstrapping test likely to be a suitable way of calculating the significance.

Studying the procedure of Tax harmonization, and especially having a deep focus on the previous empirical studies had shown us that there has been a major upsurge in the harmony of accounting practices. Since the end of the 1980s industrial companies appeared to be part of this process of Tax harmonization, which has been happening unconventionally. In this research the empirical analysis which we have done has shown very high level of index in the second period, also the use the bootstrapping, we can conclude that it can increase significantly in all the forms we had reflected. Hence the results validate the substantiation that this procedure of Tax harmonization of industrial companies had gone on in 2008-2018.

According to this research, the effects of this empirical study of Tax harmonization of industrial players are that the tax harmonization procedure can transmit by the edition of international accounting rules. The difficulties intricate in the comparison of financial tax accounting

reports still had obstacles in an international context and industrial players.

The suggestions for regulatory authorities are crucial for future policies and implications. The implementation of a tax harmonization procedure creates coherence by which we can attain our tax objectives in a better way, at least for industrial companies. These features make it easy to influence and achieve its long-term objectives. As the regulatory bodies of tax authority in Iraq had adopted the approach of allowing industrial companies to use international standards of Tax harmonization.

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