Classification of Turkish Accounting System

Assistant Prof. Dr. Feyyaz YILDIZ (Corresponding Author)
Afyon Kocatepe University
Faculty of Economics and Administrative Science
Department of International Trade and Finance
Ahmet Necdet Sezer Campus, Gazligöl Road, km. 8,
03200, Afyonkarahisar-Turkey
E-mail: feyyaz.yildiz@gmail.com, Phone:+90(272)228 12 92/250

Associate Prof. Dr. Cemal ELİTAŞ
Afyon Kocatepe University
Faculty of Economics and Administrative Science
Department of Business Administration
Ahmet Necdet Sezer Campus, Gazligöl Road, km. 8,
03200, Afyonkarahisar-Turkey
E-mail: celitas@aku.edu.tr, Phone: +90 (272) 228 12 92

Assistant Prof. Dr. Mustafa ÜÇ
Epoka University
Faculty of Economics and Administrative Science
Department of Business Administration
Km 12, Autostrada Tiranë-Rinas, Albania
E-mail: mustafauc@epoka.edu.al, Phone: +355 42 232 086

Abstract

This study aims to position the Turkish Accounting System within Anglo-Saxon and Continental European accounting systems, through statistical analysis of various data. In the scope of this study, the accounting systems of Turkey, other 14 countries and the International Accounting Standards Committee (IASC) were analyzed via hierarchical cluster analysis of 34 different criteria focused on accounting and valuation. Following statistical analysis, the Turkish accounting system was classified as a "Mixed Accounting System", indicating that it differs from Anglo-Saxon and Continental European accounting systems.

Key Words: Turkey, Accounting; Turkish Accounting System; TRANSAAC.

1. Introduction

All financial reporting activities of the enterprises in a country for a specific period constitutes the accounting system of that country. In this context, accounting systems can be classified on the basis of a large range of factors, varying from the method adopted in recording financial events to how these events are audited, to the qualifications of the accounting professionals and to the accounting rules followed. A review of international accounting literature has shown that many studies have been conducted on this issue, which will be detailed in the literature review section of the study. This study makes an empirical comparison between the Turkish accounting system and that of other countries, in order to classify the Turkish system and determine which countries are similar or dissimilar to Turkey in terms of their accounting systems. The study then addresses the process of convergence and standardization of accounting systems, which has gained speed, particularly during the 2000s, and discusses the effects of this process on national accounting systems and classification studies.

2. Literature Rewiev

A review of the literature indicates that none of the international studies conducted on this issue have covered Turkey. The exclusion of Turkey, particularly from the 1973, 1975 and 1979 PricewaterhouseCoopers (PWC) questionnaires can be suggested as the main reason why the Turkish accounting system has never been analyzed in this scope. For instance, the 1979 PWC questionnaire –the most comprehensive of these three questionnaires- included 64 countries, ranging from small Pacific islands and many African countries to the developed countries of the West, but excluded Turkey. The main reason for this situation is that the questionnaires then considered Turkey as a Middle East country, which was the only region in the world that was excluded from all three questionnaires.

In the local literature, on the other hand, it is intuitively known by the accounting scientists that the Turkish accounting was influenced by Germany from the foundation of the Republic until the 1950s; and, since that time, has been under the influence of the USA (excluding accounting practices of public institutions like SUMERBANK) (Yalkın, 2001; Çürük; 2001; Mugan, 1995). In light of these views, it can be concluded that the Turkish accounting system has followed a historical course from a Continental European accounting system to an Anglo-Saxon accounting system, and that the current Turkish accounting system therefore reflects some characteristics of both these systems.

3. Study Data

This study aims to classify the various systems under examination by using statistical techniques, based on the similarities between the accounting rules[1] set by 15 countries and the IASC[2] for Corporations not subject to consolidation. The "TRANSACC" database (Transnational Accounting and A Reference Matrix) was used in the study. The TRANSACC database is composed of accounting rules of 14 countries and of the IASC. The rules of each country have been established by local accounting academics and experts. Data pertaining to Turkey have also been entered into a database by accounting academics, in line with 1995 legislation, as is the case in other countries. Thus, the number of countries covered by the database has increased to 15. Data have been created based on the rules related to preparation of balance sheets and statements of income, two basic concepts of an accounting system. These data have been classified under the titles of "accounting" (recording, classification, abstracting) and "valuation". The reason why accounting rules rather than accounting practices have been preferred is that interpretation differences between enterprises in the face of financial events lead to different practices. In this scope, data compilation via review of the accounting legislation or standards of each country appeared to be a more objective option. Moreover, accounting rules of Corporations have been selected since this is the most legally developed form of enterprise in each country and therefore has a broad legislation on accounting rules (TRANSACC, 1995). Table 1 presents the countries from which data have been collected in the scope of the present study.

Insert table 1 about here

During translation into Turkish of the accounting rules (or "study variables" in statistical terms) in the database, the accounting dictionary published on the official website of Turkish Accounting Standards Board (TASB) and the terminology dictionary given as a separate part in TRANSACC were used. The variables listed below, related to Turkey, were defined in line with the legislation applicable in 1995.

- Turkish Commercial Law (TCL) published in the Official Gazette dated 09 July 1956 and numbered 9353.
- Tax Procedure Law (TPL) No 213 published in the Official Gazette dated 10 January 1961 and numbered 10703.
- General Communiqué on Accounting System Implementation (GCASI) with Serial No 1 of the Ministry of Finance, published in the Official Gazette dated 26 December 1992 and numbered 21447 (Repetition)
- General Communiqué on Accounting System Implementation (GCASI) with Serial No 2 of the Ministry of Finance, published in the Official Gazette dated 16 December 1993 and numbered 21790.
- General Communiqué on Accounting System Implementation (GCASI) with Serial No 3 of the Ministry of Finance, published in the Official Gazette dated 18 September 1994 and numbered 22055.
- General Communiqué on Accounting System Implementation (GCASI) with Serial No 4 of the Ministry of Finance, published in the Official Gazette dated 18 March 1995 and numbered 22231.
- General Communiqué on Accounting System Implementation (GCASI) with Serial No 5 of the Ministry of Finance, published in the Official Gazette dated 20 April 1995 and numbered 22264.

The legislation listed above, which was the basis for the data pertaining to Turkey, is still applicable to Corporations in 2010, the year of the present study. The number of GCASI increased to 15, with the last increase in 2008. However, accountancy rules in Turkey are still based on the above-listed TPL, TCL and GCASI with Serial No 1. Table 2 shows the data used in the present study. The following data are compiled according to the related legislation (Generally Accepted Accounting Principles) of each study country, which, in 1995, set out accounting practices of corporations that were not subject consolidation.

[1] In this part of the study, the concept of "accounting rules" refers to accounting standards or to the legislation such as laws and regulations on accounting methods. For the countries where accountancy regulations are not commonly based on legislation, this concept refers to generally accepted accounting principles.

[2] The IASC (International Accounting Standards Committee) was not renamed as IASB (International Accounting Standards Board) in 1995, the year when the database was created.

Insert table 2 about here

The TRANSACC database has a second part, which includes the accounting rules pertaining to group accounts. In other words, this part compiles accounting rules on consolidation for the Corporations in each country. This part of TRANSACC was also used in a study by d'Arcy (2000). However, it was then suggested by Nobes that some of the accounting rules on consolidation were compiled in the wrong way (Nobes, 2004). Moreover, consolidation procedures are carried out mainly to inform investors, while accounting of enterprises not subject to consolidation not only provides information to investors but also serves multiple purposes such as taxation (Sellhorn & Tomaszewski, 2006). As a result, in light of the concerns listed above, accounting rules on consolidation have not been included in the data set used in the present study.

4. Study Method

Data or variables used in this study have been obtained through nominal (categorical, classifying) measurements; specifically, triple variables in Table 2 ((**G**) Required, (**Y**) Prohibited and (**I**) Permitted)) as well as dual variables (**yes/no**) have been assigned numerical values. Although the assigned values are numerical expressions, they have equal weights. The most important function of these values is to define variables. Therefore, since four operations cannot be performed by using these numerical values, it is impossible to calculate their arithmetic averages as well (Nakip, 2003). There are three statistical analyses that can be applied, in parallel with the objectives of the study, on the study data obtained via nominal calculations. As in the previous studies, these analyses are "factor analysis", "discriminant analysis" and "cluster analysis". These types of analyses can be briefly summarized as follows:

4.1 Factor Analysis

In this method, variables are converted into a lesser number of general variables, termed "factors", to facilitate studies conducted on a large number of variables. In the present study, 32 variables have been subjected to analysis. In addition, it is known which variable measures which factor. For instance, the variable called "accounting of establishment and organization costs" is grouped, respectively, under intangible assets/assets/accounting parts in the dataset. Above all, the groups obtained via factor analysis will serve as study variables. However, the present study aims to group countries on the basis of variables (Akgül, 1997).

4.2 Discriminant Analysis

Discriminant analysis, a multi-variable analysis that defines the factors that distinguish two or more pre-classified groups from each other and shows the group to which an out-of-the-group observation can be assigned. Dependent and independent variables are used in this method (Nakip, 2003). In the present study, neither the dependent nor independent variables have been defined, nor have the groups been detected beforehand. Study countries can be grouped in the light of previous studies and by using intuitive information based on expertise; however, defining groups via subjective evaluations at the beginning of the study may raise concerns about the objectivity of the study results.

4.3 Cluster Analysis

This is a multi-variable analysis technique that aims to classify ungrouped data (number of groups is unknown) into different clusters based on their similarities in terms of units and variables. To simplify, this analysis aims to classify N number of units with P number of variables into the separate clusters created by the homogenous structure developed by the similarities between these units. Cluster analysis has two forms: hierarchical and non-hierarchical. The number of clusters is determined during analysis in the non-hierarchical clustering technique, while it is found at the end of the process in hierarchical clustering analysis (Çakmak, 1999; Çakmak, Uzgören, & Keçek, 2005). Hierarchical cluster analysis was the preferred method in the present study. The main reason for this preference is the desire to determine country groups (to be created at the end of the implementation) in an objective way in line with the data compiled. Moreover, hierarchical clustering analysis enables that the countries to be classified into different clusters or groups will be able to define the groups which are most and least similar to the group their accounting systems falls in.

Hierarchical cluster analysis divides into sub-techniques. The technique that treats each unit as a separate cluster at the beginning of the analysis is called "Aggregator", while the technique which treats whole units as one cluster is called "Separator" hierarchical clustering technique. In hierarchical cluster techniques, clusters are combined consecutively and, once two groups are combined, they cannot be separated in the following phases (Çakmak, Uzgören, & Keçek, 2005). The combining technique of "average linkage between groups" was used in the present study. In this technique, the difference between two clusters is taken as the average difference between the element pairs of two clusters. Specifically, the difference between Cluster 1 and Cluster 2, both of which have two elements each will be (85-75)/2= 5 when the likelihood ratio of Country A and B in Cluster 1 is 85% and of Country C and D in Cluster 2 is 75%.

By ordering from large to small, difference figures can be reduced until the number of clusters (n) is reduced to 1 (Çakmak, Uzgören, & Keçek, 2005). Element pairs or countries in each cluster have been paired according to their level of similarity. For instance, Country A firstly creates a cluster with the country that is most similar to it and the same procedure is repeated by all elements. Then, the number of clusters is reduced as described above. Since the data of the present study have been obtained via nominal (categorical, classifying) measurement, only the analyses pertaining to binary data entry have been applied. This does not pose a problem for the variables with **yes/no** answers. However, before the triple data (required (**G**), prohibited (**Y**) and permitted (**I**)), which constitute the majority of the dataset, were included in the analysis, they were turned into binary data using the method adopted by d'Arcy (2000), who used the same database. This procedure was performed by asking the same question as "required (**G**)" once and as "prohibited (**Y**)" once.

Insert table (3) about here

Statistical analyses used the SPSS package (Version 15.0 for Windows).

5. Study Results

In the clustering analysis, all 16 systems were evaluated and SPSS did not omit the data of any country. In other words, no missing value occurred in the analysis, except for those which were omitted from valuation by the study authors. Values in the range 0-1 were used as the basis for comparing the similarity of each country. A result close to 0 means that two countries have a low-level of similarity while a result close to 1 means they have a high-level of similarity. While defining similarities, similarity values were expressed in percentage form, to facilitate understanding of the procedure. Table 4 presents a similarity matrix of the countries.

Insert table (4) about here

Examination of Table 4 shows that the two countries which have the most similar accounting systems are Belgium and the Netherlands, with a similarity rating of 94%. In other words, these two countries have given the same answer to 94% of the questions asked in this study. This result is not surprising, since these are both West European countries with historical and socio-economic similarities, and both these two countries and Luxembourg are involved in regional cooperation, under the name "BENELUX". The set of countries with the second most similar accounting systems were found to be Germany and Austria, with a similarity rating of 91%. Considering these two countries common historical and cultural heritage, this level of similarity is not exceptional. Moreover, d'Arcy (2001), who performed cluster analysis by using TRANSACC, also reported that Germany and Austria were the most similar countries, with a similarity rate of 91%. Although d'Arcy (2001) reported the same similarity rating, that study included the group accounts (consolidation rule), which have not been analyzed in the present study, as they are not included in the sampling (d'Arcy, 2001).

According to the data presented in Table 4, the systems with the least similarity (54%) are France and the USA, in parallel with the findings reported by d'Arcy (2001). France was the first country in Europe to prepare and implement the Commercial Code, which was also used by the Ottoman Empire, the Republic of Turkey and Continental Europe. In a sense, it is the country where the accounting system of Continental Europe was born. The Continental European accounting system is based on the precautionary principle, which aims to protect creditors. At the other end of the spectrum is the USA, where a capital market-oriented Anglo-Saxon accounting system is highly developed but which -thanks to its unique structure- differs from other countries which have adopted the same system. In light of the data given in Table 4, it can be concluded that Spain has the closest accounting system to that of Turkey (81%). In addition, some important similarities were identified between the historical development of the accounting system of Spain and that of Turkey. This reflects the findings of the study by d'Arcy (2001), which did not group Spain with other European countries.

Until the 1980s, the Spanish accounting system had the characteristics of the Continental European accounting system and was shaped by commerce and tax law. After the 1980s, this system underwent drastic changes with the implementation of EU Directives on accounting (Directive 4, 7 and 8) in the national legislation. At that time, with the inclusion of professional accounting organizations in the standard setting process, the Anglo-Saxon accounting system became more influential. Particularly with the replacement of the accounting plan (inspired by the French accounting system) by the new General Accounting Plan (General de Contabilidad) in 1990, attempts were made to adopt the principle of "true and fair view". Regulations made since that date have enabled the adoption of basic accounting principles (decision usefulness) for the benefit of the users of financial information. Standards have thereby been developed which comply with the qualitative qualifications included in the conceptual framework of the FASB in the USA. Briefly, particularly with the reform process started after the 1980s, the Turkish and Spanish accounting systems entered a period transition from the accounting systems of Continental Europe to an Anglo-Saxon or Anglo-American accounting system.

The Central European system is based on two determinants, (a) accounting controlled by commercial law, focused on protecting creditors; and (b) tax law focused taxation; in contrast, the Anglo-Saxon or Anglo-American accounting systems are appropriate for the use of financial decision-makers and are capital market-oriented (Walton, Haller, & Raffournier, 2003). The accounting systems least similar to the Turkish system were found to be the British and French systems, with a similarity rate of 59%. In the period between translation and adoption of the Commercial Code of France in 1850 and the adoption of Commercial Code No 865 in 1926, the Turkish accounting system was under the influence of France. However, for almost thirty years subsequently, first Germany and then the USA were influential on the Turkish accounting system. Thus, a divergence from the French accounting system is to be expected. On the other hand, the British accounting system –which has never been directly effective on that of Turkey- was found to have the least similarity with that of Turkey. Table 5 shows the rate of similarity between the accounting systems of Turkey and other countries.

Insert table (5) about here

Hierarchical cluster analysis made in line with the similarities between the countries produced the dendogram[3] shown below, in Figure 1.

Insert figure (1) about here

A dendogram is a method of illustrating clusters as a tree-structure, and is the last step of hierarchical classification. As explained in the Methodology section, each country was deemed a separate cluster at the beginning of the analysis. First, each country has matched with the country to which it is most similar and then the analysis was continued by reducing the number of clusters. Within the process, SPSS enables to monitor clutching process by making octal, septet, triple or dual selections. Thus, change can be understood in a more clear way. Based on the dendogram shown above, and in the light of previous studies, a three-group classification was considered the most appropriate option in the present study. Figure 2 shows a triple grouping of the 16 study countries.

Insert figure (2) about here

Although a numerical scale has not been used in the figure above, the main aim is to make the dendogram easier to understand. The reason why the figure is divided into two is that when the SPSS program is asked to show two groups, Turkey's group is included in the European group above it. In other words, Turkey's group will be included in the European systems in the following dual classification. The first point to note in the figure above is that, in each group, the countries shown side by side are the pairs that have been found to be most similar in the initial similarity matrix. At that stage, Turkey and France stand alone in their groups. The analysis indicates that there are three groups: (i) the USA and Australia group; (ii) the group including Turkey and separate from the European group; (iii) the European group. Here, it would be more appropriate to make comments on group basis rather than country basis. Firstly, two main groups have evolved in the present study. In other words, it would not be wrong to suggest that the group adopting the European system is positioned at one end of the spectrum with the USA at the other end. The largest group is referred to as the European Systems, since all the countries in this group (except Canada) are in Europe and these countries (except England) have played an important role in the development of the Continental European accounting system, which occupies a large proportion of the literature. In this scope, it can be concluded that this group represents -although relatively- the accounting system of Continental Europe.

Similarly to the previous study by d'Arcy (which used the same database) the present study found no clear distinction with regards to Anglo-Saxon accounting systems. However, the general appearance of the results shows that the USA accounting system is highly influential and is quite distinct from all the other accounting systems included in the study. England, which is the second leading country within the system named Anglo-Saxon or Anglo-American, was not grouped with the USA in either the present study nor in the previous study by d'Archy. This is because, as with the other EU countries, England has adopted into its national legislation 4 EU Directives on accounting, which present accounting standards and related basic concepts. Finally, the USA was found to be a highly influential and explanatory country in this study, regardless of whether it is called "Anglo-Saxon" or not. The large "Mixed or Transition Systems Group", which includes Turkey, seems to be a group which combines the characteristics of the Continental Europe and Anglo-Saxon group or, in the case of this study, the characteristics of the USA as well. In other words, it is the group which is positioned in the center of the spectrum. The similarity, between the historical course of the Turkish and Spanish accounting systems, explained at the beginning of this section, proves this suggestion. Moreover, it is also possible to suggest that the Turkey-Spain example is also valid for the other member of this group, Japan.

[3] Any hierarchical technique result which is illustrated through a tree diagram is called dendogram.

The commercial code imported from Germany at the end of the nineteenth century was also quite influential on the creation and content of the Japanese accounting system. However, this law (which was based on the principle of protecting the interests of creditors, and which was appropriate for a credit-based accounting system) and the Japanese accounting system were subjected to mandatory change following the occupation of Japan by the USA after the Second World War. The reason behind this change was that the USA (which had a capital market-based system during the period of occupation) established in Japan a capital market law and board as well as a stock exchange similar to those in the USA (Nobes, 1998; Nobes & Alexander, 2004).
On the other hand, considering that the IASC has many members from across the world, it is quite normal that its standards are similar (to some extent) to all groups, rather than to only the well-established accounting systems; therefore, IASC is included in the transition group. Sweden, on the other hand, is a Scandinavian country, but was still found to be within the "Mixed or Transition Systems Group". In previous studies by Nair & Frank (1980), Nair (1982), d'Arcy (2001) and Nobes (1980), Sweden was found to be out of the Continental European accounting systems, although it is a Scandinavian country.

The present study attempted to classify the accounting rules of the studied countries on the basis of their similarities. According to the similarities which can be explained on the basis of the factors (such as historical, socio-economic and cultural) effective on development of accounting systems; there are three groups: European Systems, Mixed (Transition) Systems and the USA-Australia group. According to the variables subjected to analysis in the present study, Turkey is most similar to the Spanish accounting system; and, respectively, to Japan, Sweden and IASC, all of which are in the same group as Turkey. Since study analysis is a hierarchical classification, the distance between the groups can also be understood. In this context, the group closest to the Mixed Systems group (the Turkish group) is the European Systems group.

6. Current Standardization Attempts and Their Reflections on The Turkish Accounting System

Decisions taken in Turkish economy on 24 January 1980, which paved the way for internationalization of trade and globalization in general; and the process of EU accession (which gained speed particularly in 2000s) specifically, have brought about drastic changes in the economy and accounting sectors of Turkey (Elitaş & Üç, 2009; Bursal, 1998). Turkey became a member of the IASC in 1974, one year after its establishment. Moreover, Turkey made it optional in 2003 and (in parallel with the EU), obligatory in 2005 for enterprises quoted on the stock exchange to use IFRS (International Financial Reporting Standards) (Cooke & Çürük, 1996; Mugan & Akman, 2005). Turkey was therefore one of the first countries to adapt to the global process of accounting harmonization. The main reason for this situation is that Turkey has rapidly growing financial and real markets with increasing number of foreign investors and that, as an EU candidate country, Turkey has to align its legislation with EU regulations.

However, taking into consideration that enterprises in Turkey are not limited only to those quoted on the stock exchange, it is understood that rapid adaptation is limited only to one side of the coin. As is the case in many other countries, a major part of the Turkey's economy consists of small and medium size enterprises (SMEs).
SMEs in Turkey still implement the accounting communiqués issued by the Ministry of Finance. On the other hand, companies quoted on the Stock Exchange continue keeping their accounting records in accordance with these communiqués due to their tax liabilities. In other words, they keep double accounting records.
The Draft Turkish Commercial Law completed by the Ministry of Justice in 2005 entitles Turkish Accounting Standards Board (TASB) to set accounting standards and provides for each enterprise (including SMEs) to implement UFRS. As of 2009, this Draft Law is still under discussion in the General Assembly of the Turkish Parliament (GATP). Moreover, TASB is working on the preparation of UFRS sets applicable to SMEs (Bekçi, 2007; Aksoy, 2005).

7. Conclusion

In the studies conducted to date, accounting systems have been classified either through defining similar points of the selected accounting practices, and on the basis of the similarities between countries in terms of the selected accounting practices; or through the factors which define the circumstances which are out of the scope of implementation (such as similarities in the process of setting accounting standards or similarities within the accounting profession and education). In the first classification method, results are obtained empirically and suggestions are made on the basis of previous studies and information, while in the second classification method results are obtained completely intuitively and suggestions are based on previous studies and information. The present study compared the accounting practices of 16 countries, including Austria, Australia, Belgium, Canada, Denmark, France, Germany, IASC, Japan, the Netherlands, Spain, Sweden, Switzerland, Britain, the USA and Turkey in order to classify them according to their similarities. In this context, 44 accounting implementations of the 16 countries were obtained from the TRANSACC database.

Of these 44 data items, 12 were omitted as they did not comply with the statistical analyses used in the present study. The remaining 32 accounting practices were taken as the basis for the statistical analysis. Countries were classified into three groups in this study, using cluster analysis. The accounting systems of Belgium, the Netherlands, Austria, Germany, Denmark, Switzerland, Britain, Canada and France were within the same group. Considering the general characteristics of the group countries and previous studies, this group was referred to as "European Systems", as it includes the main countries of the Continental Europe accounting system. The accounting systems of Japan, Sweden, IASC, Spain and Turkey formed the second group of the study. Examination of the historical course of the socio-economic factors constituting their various accounting systems suggests that the countries in this group have created not an original system but a mixed structure, due to the influences of other countries' systems. Therefore, this group was termed "Mixed (Transition) Systems". The third group of the study consisted of the USA and Australia. The specificity and uniqueness of the accounting systems of both countries prevented them from being included in either the first or the second group. In a sense, even though it has not been revealed by the findings of the present study, it can be concluded that this group represents an Anglo-Saxon accounting system, because the other two Anglo-Saxon countries in this study (Britain and Canada) are classified as part of the European System group.

Empirical studies, by their nature, are objective studies with minimum human subjectivity. However, this does not imply that the results of empirical studies are one hundred percent accurate. In this context, the 32 data items for each of the 16 study countries have not revealed a clear Anglo-Saxon accounting system in any of these countries. This grouping has been found in many previous studies and is explanatory of other groups. However, the failure to identify this group in the present study does not mean that it does not exist at all. Moreover, the USA and Australia system identified by the present study is a projection of the Anglo-Saxon accounting system. Therefore, the Mixed Systems group (which includes Turkey) synthesis properties of the Anglo-Saxon and Continental European accounting systems and is composed of countries which do not have a homogenous system.

Based on the findings of this study, it can be concluded that the accounting system most similar to the Turkish accounting system is that within Spain. In this context, Turkey should take as a reference point the experiences of firstly Spain and then other members of its group during the transition to IFRSs and in the solution of traditional accounting problems. Today, efforts towards harmonization and standardization of accounting systems have gained speed. However, it cannot be suggested, in the light of the efforts to date, that national differences have been totally eliminated and that accounting systems have been standardized. Moreover, diversity in standardization shows that national accounting systems will continue to exist at a specific level under any circumstance and that efforts and studies on classification should be continued.
Although it is relatively difficult to conduct empirical studies (particularly to obtain data) on the classification of accounting systems, it will be highly informative and useful to repeat the present study using a larger number of countries and more data.

References

Akgül, A. (1997). Tıbbi Araştırmalarda İstatistiksel Analiz Teknikleri:SPSS Uygulamaları (Statistical Analysis Technics in Medical Researches with SPSS Application). Yüksek Öğretim Kurulu Matbaası, Ankara.

Aksoy, T. (2005). Finansal Muhasebe ve Raporlama Standartlarında Uyumlaştırma ve UMS/UFRS Bazında Küresel Muhasebe Standartları Setine Yöneliş Eğilimi (Reconciliation at Financial Accounting and Reporting Standards and Drift Tendency To Global Accounting Standards Set in the Basis of IAS/IFRS). *Mali Çözüm*, Year 15, Vol. 71.

Bekçi, İ. (2007). Muhasebe Meslek Mensuplarının Türkiye Muhasebe Standartları Hakkındaki Görüşlerinin Değerlendirilmesine Yönelik Bir Araştırma, (A Research Intended to Evaluation of Accounting Job Members' Opinion About Turkish Accounting Standards). *Muhasebe ve Denetime Bakış*, Year 7, Vol. 22.

Bursal, N. (1998). *Recent Changes in The Accounting Profession and Financial Reporting in Turkey*. Advances in International Accounting Supplement 1, JAI Pres Inc. England.

Cooke, T. & T. Çürük. (1996). Accounting in Turkey with Reference to the Particular Problems of Lease Transactions. *European Accounting Review*, Vol. 5, Issue 2.

Çakmak, Z.(1999). Kümeleme Analizinde Geçerlilik Problemi ve Kümeleme Sonuçlarının Değerlendirilmesi, (Validity Problem in Clustering Analysis and Evaluation of Clustering Results). *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, November 1999.

Çakmak, Z., N. Uzgören, & G. Keçek. (2005). Kümeleme Analizi Teknikleri ile İllerin Kültürel Yapılarına Göre Sınıflandırılması ve Değişimlerin İncelenmesi, (Classification of Cities According To Cultural Structures With Using Clustering Analysis Techniquess). *Dumlupınar Üniversitesi Sosyal Bilimler Dergisi*, Issue 12, June 2005.

Çürük, T. (2001). *An Analysis of Factors Influencing Accounting Disclosure in Turkey*, ISE Publications, Tasarım Matbaası, İstanbul.

d'Arcy, A. (2000). The Degree of Determination of National Accounting Systems-An Empirical Investigation. *Scmalenbach Business Review*, January 2000.

d'Arcy, A. (2001). Accounting Classification and The International Harmonisation Debate-An Empirical Investigation. *Accounting, Organizations and Society*, Vol. 26, Issue 4-5, May-July 2001.

Elitaş, C. & M. Üç. (2009). The Change on The Foundations of Turkish Accounting System and The Future Perspectives. *Critical Perspectives on Accounting*, Vol. 20, Issue 5, July 2009.

Mugan, C. Ş. & N. H. Akman. (2005). Convergence of International Financial Reporting Standards: The Case of Turkey. *International Journal of Accounting, Auditing and Performance Evaluation*, Vol. 2, Issue 1/2.

Mugan, C. Ş. (1995). Accounting in Turkey. *European Accounting Review*, Vol. 4, Issue 2.

Nair, R. D., & W. G. Frank. (1980). The Impact of Disclosure and Measurement Practices on International Accounting Classifications. *Accounting Review*, Vol. 55, Issue 3.

Nakip, M. (2003). *Pazarlama Araştırmaları Teknikleri ve SPSS Destekli Uygulamalar, (Marketing Research Techniques and Applications Supported by SPSS)*. Seçkin Yayıncılık, Ankara.

Nobes, C. (1998). Towards a General Model of the Reasons for the International Differences in Financial Reporting. *Abacus*, Vol. 34, Issue 2, September 1998.

Nobes, C. (2004). On Accounting Classification and International Harmonisation Debate. *Accounting Organization and Society*, Vol.29, Issue 2, February 2004.

Nobes, C. & D. Alexander.(2004). *Financial Accounting An International Introduction*. Second Edition, Financial Times Prentice Hall, UK.

Sellhorn, T. & S. Tomasexski. (2006). Implications of the IAS Regualation for Research into the International Differences in Accounting Systems. *Accounting in Europe*, Vol.3, Issue 1.

Ordelheide, D. & A. Semler. (1995). *Transnational Accounting A Reference Matrix and Glossary, TRANSACC*. MacMillan Press Ltd, UK.

Walton, P., A. Haller, & B. Raffournier. (2003). *International Accounting*. Thomson Scientific, Second Edition, UK.

Yalkın, Y. K. (2001). *Genel Muhasebe:İlkeleri ve Uygulaması, (Financial Accounting Principles and Applications)*. Turhan Kitabevi, Bursa, Türkiye.

G = Related legislation or standardization body requires implementation of an accounting method.
Y = Related legislation or standardization body prohibits implementation of an accounting method.
I = Use of accounting method is permitted despite absence of any provision or regulation.
= No accounting method has been found in that country.
***** = Variable value assigned for this item is same for all countries involved. It has been deemed unnecessary to include this value in the cluster analysis and it is presented in the Table for information purpose only.
****** = The accounting method in this item is not used in one or several countries. It is a missing value in terms of cluster analysis and has not been analyzed. It is presented in the Table for information purpose only.

Table 1. Study Countries

Country	Abbreviation used in the Study	Continent
Australia	AUSL	Oceania
Turkey	TR	Asia
Japan	JAP	Asia
The USA	USA	America
Canada	CA	America
Austria	AUS	Europe
Belgium	BEL	Europe
Denmark	DM	Europe
France	FR	Europe
Germany	GER	Europe
The Netherlands	HOL	Europe
Spain	SP	Europe
Sweden	SWE	Europe
Switzerland	SWIT	Europe
Britain	UK	Europe
International Accounting Standards Committee	IASC	

VARIABLES	AUSL	AUS	BEL	CA	DM	FR	GER	IASC	JAP	HOL	SP	SWE	SWIT	UK	USA	TR
ACCOUNTING																
Basic principle (True and fair view) *yes/no*	No	No	Yes	Yes	Yes	Yes	No	No	No	Yes	No	No	No	Yes	No	No
Current Assets																
Intangible Assets																
Establishment and organization costs (GCASI, TPL Art.282)	I	Y	I	I	Y	I	Y	I	I	I	G	Y	I	Y	G	G
Capacity increase and re-organization costs (TPL Art.272)	G	I	I	I	I	I	I	G	Y	Y	G	I	I	Y	G	G
Research Costs (GCASI)	Y	Y	Y	Y	İ	Y	Y	Y	Y	Y	İ	Y	İ	Y	Y	Y
Development Costs (GCASI)	Y	Y	I	I	I	I	Y	G	I	I	I	I	I	I	Y	Y
Purchase of patent, license and etc. (GCASI)	G	G	G	G	I	G	G	G	G	G	G	G	G	G	G	G
Self-production of patent, license and etc.	I	Y	I	G	Y	Y	Y	G	I	I	G	Y	Y	Y	I	G
Purchase of goodwill (GCASI)	I	I	I	G	I	I	I	G	I	I	G	G	I	I	G	G
Self-production of goodwill *	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Tangible Assets																
Difference between current and fixed assets *	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
In financial leasing, the capacity of the lesser to make an entry in the asset	Y	Y	Y	Y	I	Y	Y	Y	Y	Y	Y	Y	I	Y	I	I
In financial leasing, the capacity of the lessee to make an entry in the asset	G	G	G	G	I	Y	G	G	G	G	G	G	G	G	G	I
In activity leasing, the capacity of the lesser to make an entry in the asset	G	G	G	G	I	G	G	G	G	G	G	I	I	G	G	I
In activity leasing, the capacity of the lessee to make an entry in the asset	Y	Y	Y	Y	I	Y	Y	Y	Y	Y	Y	I	I	Y	Y	I
Costs of coming months/years, Costs paid in cash (GCASI)	I	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Advance Payment for Placed Orders (GCASI)	G	G	G	G	G	G	G	G	G	G	G	G	I	I	Y	G
Deferred tax assets **	G	Y	#	I	I	I	I	I	Y	I	G	I	#	G	G	#
Passives																
Legal Reserves (Liability to create legal reserves) *yes/no* (TCL Art. 466-469)	No	Yes	Yes	No	No	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	No	No	Yes
To create reserve for bad debts to arise from general commercial transactions or legal requirements (TPL Art.288)	Y	G	G	I	G	G	G	G	G	G	G	G	G	I	I	G
To create reserve for possible loss to arise due to uncompleted transactions (TPL Art.288, GCASI)**	Y	G	G	G	G	G	G	G	I	G	G	G	G	G	G	#
To create reserve for expenditures (possible expenditures-losses) (GCASI)	Y	I	G	G	G	I	I	G	G	G	G	G	G	G	G	G
Advance payments of placed orders	G	G	G	G	G	G	I	G	G	G	G	I	I	I	G	G
Deferred revenues **	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	#
Government Incentives	I	I	I	I	I	G	I	I	I	I	I	G	I	I	I	I
VAULATION																
Valuation of Assets																
Amortization of capacity increase and re-organization costs (TPL Art. 272)**	G	I	I	G	I	#	I	G	#	#	I	I	I	#	I	G
Amortization of research and development costs (GCASI)**	G	#	G	G	G	#	G	G	G	G	G	G	I	G	#	G
Amortization of self-production, patens, right and etc. (*yes/no)*	Yes	No	Yes	Yes	No	No	No	Yes	Yes	Yes	Yes	No	No	Yes	Yes	Yes
Amortization of goodwill (GCASI)	G	G	G	G	G	I	G	G	G	G	G	G	G	G	G	G
Direct first material costs (GCASI)*	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Direct production costs *	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
VARIABLES	AUSL	AUS	BEL	CA	DM	FR	GER	IASC	JAP	HOL	SP	SWE	SWIT	UK	USA	TR
Use or appropriate rate for the costs of required general materials	G	G	I	I	I	I	I	G	G	I	G	G	I	I	G	G
Use or appropriate rate for the costs of required general production	G	G	I	I	I	I	I	G	G	I	G	G	I	I	G	G
Amortization of tangible assets (TPL Art.313-321)	G	I	I	I	I	I	I	G	G	I	G	G	I	I	G	G
Capitalization of general management costs (GCASI)	G	Y	I	I	I	Y	I	Y	Y	I	Y	Y	I	Y	G	Y
Capitalization and recording of - social-purpose expenditures (GCASI)	G	I	I	Y	I	G	I	G	G	Y	Y	G	Y	Y	Y	Y
Capitalization of loan interests (GCASI)	I	I	I	I	Y	I	I	I	Y	I	I	Y	I	I	G	Y
Capitalization of marketing sales and distribution costs (GCASI)**	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Costs of renewal of tangible assets and similar costs (TPL Art. 262)	G	G	I	G	G	G	G	G	G	G	G	G	I	G	G	G
Extraordinary amortization in tangible assets (TPL Art.313-321)*	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G	G
Devaluation of the book value of fixed assets	G	I	G	Y	G	G	G	G	Y	G	G	Y	I	G	Y	Y
Valuation of Liabilities																
Valuation of equities (Nominal or Real Value) N/R	N	N	N	R	N	N	N	N	N	N	N	N	N	N	N	N
Valuation of long-term debts (Recorded or Discounted) R/D	R	R	R	D	R	R	R	D	R	R	R	R	R	R	D	R
Valuation of short-term debts (Recorded or Discounted) R/D*	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R	R
Revaluation Accounting (TPL Art. 298)	I	Y	I	Y	I	I	Y	I	Y	I	Y	I	I	I	I	G

Table 3. Reduction of answers into two choices

Accounting Rule	**Country A** Required (G)	**Country B** Permitted (I)	**Country C** Prohibited (Y)
It is required to account development costs (G)	1	0	0
It is prohibited to account development costs (Y)	0	0	1

Source: d'Arcy, (2000).

Countries	**SIMILARITY VALUES OF STUDY COUNTRIES**															
	Turkey	**Australia**	**Austria**	**Belgium**	**Canada**	**Denmark**	**France**	**Germany**	**IASC**	**Japan**	**The Netherlands**	**Spain**	**Sweden**	**Switzerland**	**Britain**	**The USA**
Turkey	**1.000**	**.644**	**.695**	**.661**	**.678**	**.678**	**.593**	**.610**	**.763**	**.763**	**.678**	**.814**	**.763**	**.695**	**.593**	**.746**
Australia	**.644**	**1.000**	**.746**	**.746**	**.661**	**.593**	**.678**	**.729**	**.780**	**.746**	**.729**	**.695**	**.644**	**.610**	**.678**	**.729**
Austria	**.695**	**.746**	**1.000**	**.797**	**.712**	**.746**	**.797**	**.915**	**.763**	**.831**	**.780**	**.746**	**.797**	**.763**	**.763**	**.678**
Belgium	**.661**	**.746**	**.797**	**1.000**	**.814**	**.814**	**.831**	**.847**	**.797**	**.797**	**.949**	**.746**	**.695**	**.831**	**.831**	**.644**
Canada	**.678**	**.661**	**.712**	**.814**	**1.000**	**.661**	**.678**	**.729**	**.746**	**.746**	**.831**	**.729**	**.644**	**.712**	**.780**	**.729**
Denmark	**.678**	**.593**	**.746**	**.814**	**.661**	**1.000**	**.780**	**.797**	**.644**	**.678**	**.797**	**.661**	**.746**	**.847**	**.746**	**.559**
France	**.593**	**.678**	**.797**	**.831**	**.678**	**.780**	**1.000**	**.814**	**.729**	**.729**	**.814**	**.712**	**.729**	**.729**	**.763**	**.542**
Germany	**.610**	**.729**	**.915**	**.847**	**.729**	**.797**	**.814**	**1.000**	**.712**	**.746**	**.831**	**.695**	**.746**	**.814**	**.814**	**.627**
IASC	**.763**	**.780**	**.763**	**.797**	**.746**	**.644**	**.729**	**.712**	**1.000**	**.831**	**.780**	**.847**	**.763**	**.661**	**.695**	**.712**
Japan	**.763**	**.746**	**.831**	**.797**	**.746**	**.678**	**.729**	**.746**	**.831**	**1.000**	**.814**	**.780**	**.831**	**.695**	**.729**	**.678**
The Netherlands	**.678**	**.729**	**.780**	**.949**	**.831**	**.797**	**.814**	**.831**	**.780**	**.814**	**1.000**	**.763**	**.678**	**.814**	**.881**	**.661**
Spain	**.814**	**.695**	**.746**	**.746**	**.729**	**.661**	**.712**	**.695**	**.847**	**.780**	**.763**	**1.000**	**.678**	**.678**	**.678**	**.695**
Sweden	**.763**	**.644**	**.797**	**.695**	**.644**	**.746**	**.729**	**.746**	**.763**	**.831**	**.678**	**.678**	**1.000**	**.763**	**.695**	**.644**
Switzerland	**.695**	**.610**	**.763**	**.831**	**.712**	**.847**	**.729**	**.814**	**.661**	**.695**	**.814**	**.678**	**.763**	**1.000**	**.763**	**.644**
Britain	**.593**	**.678**	**.763**	**.831**	**.780**	**.746**	**.763**	**.814**	**.695**	**.729**	**.881**	**.678**	**.695**	**.763**	**1.000**	**.678**
The USA	**.746**	**.729**	**.678**	**.644**	**.729**	**.559**	**.542**	**.627**	**.712**	**.678**	**.661**	**.695**	**.644**	**.644**	**.678**	**1.000**

Table 5. Rate of similarity between accounting systems of Turkey and other countries

Other Countries	**Turkey**
Spain	81%
IASC	76%
Japan	76%
Sweden	76%
The USA	74%
Switzerland	69%
Austria	69%
Denmark	67%
Canada	67%
The Netherlands	67%
Belgium	66%
Australia	64%
Germany	61%
France	59%
Britain	59%

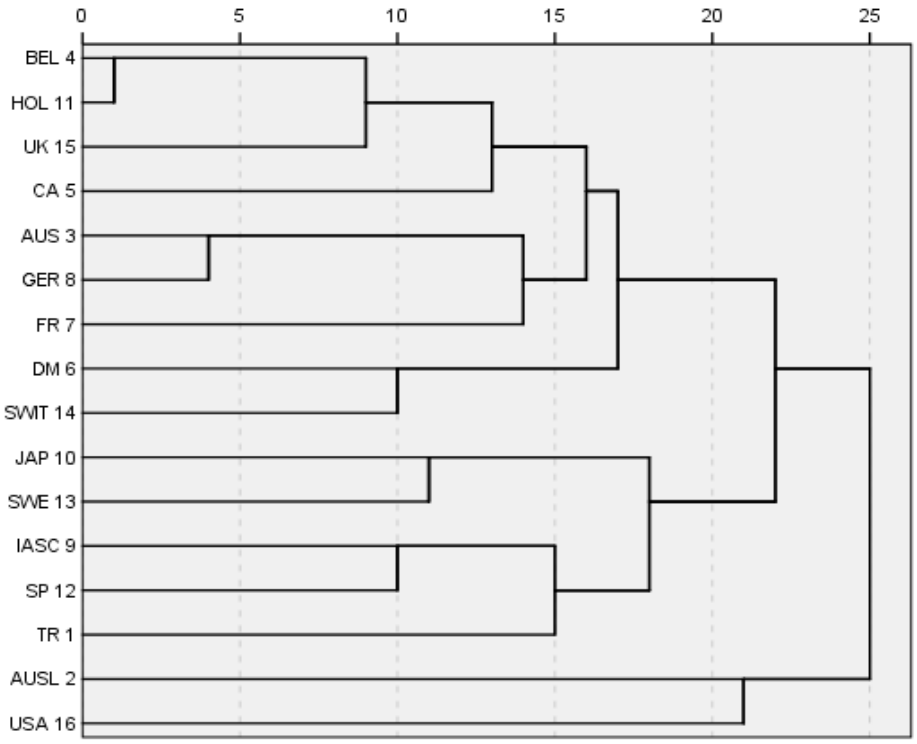

Figure 1. Dendogram Created VIA Average Connection Technique

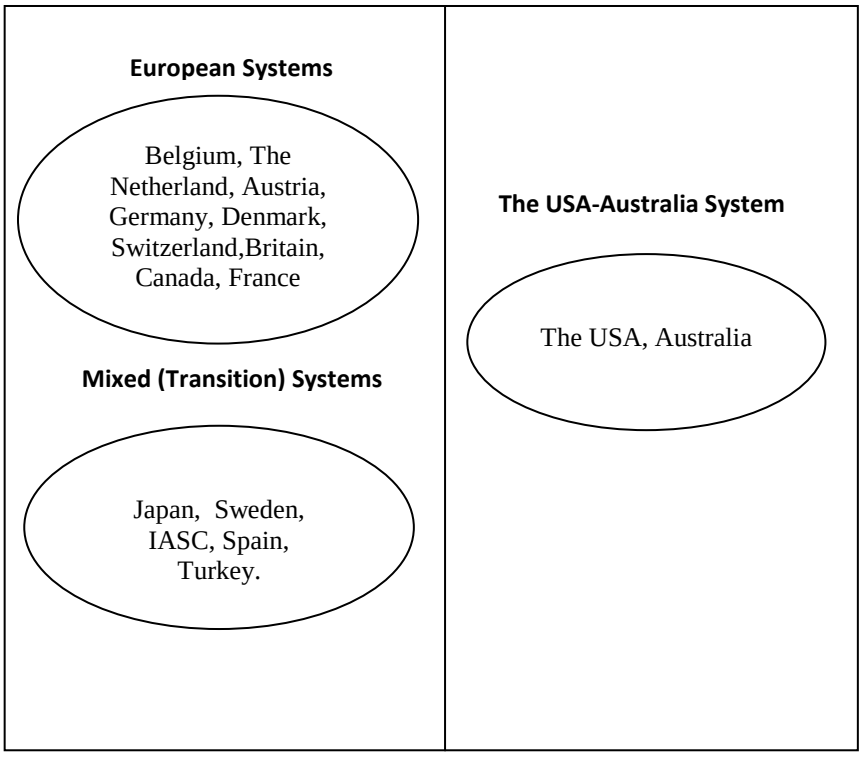

Figure 2. Triple Classification of Study Countries