The Degree of Harmonization
of Accounting Practices within Jordan

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ABSTRACT

This study has been carried out to reword the degree of harmonization of accounting practices already taking place in Jordan, and with analyzing the best option for Jordan to achieve accounting harmonization. A survey of accounting practices in Jordan is made of the consistency and change in measurement methods used over the period 2000-2002. Two statistical tools were used. The Chi-square test is used to assess whether the measurement practices by companies in Jordan are significantly different, and the C-index is used to find the degree of harmonization within Jordan in order to determine what factors appear to have influenced comparability.

The results indicated that the Jordanian accounting practices concerning inventory valuation and costing, goodwill, research and development costs, fixed assets valuation, depreciation, long term investments, investments in associates and foreign current translation are not significantly different. The results also show that the Jordanian accounting practices concerning the amortization of research and development costs and current investments are significantly different. And these results also show that accounting practices concerning inventory valuation, goodwill, research and development costs, fixed assets, depreciation have a high level of comparability, while the accounting practices concerning inventory costing, amortization of research and development costs, current investments, investments in associates, foreign currency translation and exchange differences have a low level of comparability. It is noticed that the two techniques used (the Chi-square test and the C-index) do not indicate the same results concerning any differences in the accounting practices all over time. Moreover, the study concluded that the elimination of the options provided by the International Financial Reporting Standards (IFRS) could be the best solution to increase the degree of harmonization within Jordan.

Keywords: Degree of Harmonization, Accounting Practices, C-index.

1.   INTRODUCTION

Despite the recent problems in the countries of the Middle East, they represent a great potential market for investors and companies. Chairas and Radianto (2001) pointed out that the potential market could be a great investment opportunity for investors and companies to

expand their businesses. They added that one of the many tools to facilitate the relationship between investors and companies is the annual report that can be understood easily by the readers from different companies. Such work parties could obtain lots of benefits from harmonized accounting practices.

Encouraging local and foreign investments has a dual effect on both investors and companies at the same time. From the investors' side, it could be a great opportunity to make investments while at the same time; it could also

be a good opportunity for companies to expand their businesses. One of many tools to encourage investments is the reliable annual report that can facilitate the communication between investors and companies as a result of harmonization of accounting practices (Chairas and Radianto, 2001).

Jordan is a developing economy and does not have a tradition of national accounting standards. In 1989, the Jordanian Association of Public Accountants (JAPA) adopted International Accounting Standards (IASs) starting 1990. However, the JAPA did not have the legal power to force the Jordanian companies to follow its recommendation. The New Company Law of 1997 required that the accounting standards adopted internationally be used as the basis for Jordanian accounting practices. Furthermore, the Securities Commission Law (SCL) of 1997 adopted international accounting, auditing and performance evaluation standards for all entities falling under the supervision of the Security Commission (SC).

This paper has three main purposes that are specifically related to the accounting harmonization in Jordan. First, a survey of accounting practices by Jordanian listed companies is conducted. It covers the consistency issue as well as changes in measurement methods used by the Jordanian companies as disclosed in their financial reports over the period 2000-2002. Second, an attempt is made to judge whether or not the asset and profit measurement practices in Jordan are significantly different for the same period. Third, an effort is made to quantify the overall extent of accounting uniformity or harmony within Jordan. This study does not, however, attempt to measure the extent of uniformity before the adoption of IAS by Jordan in 1997. The analysis is thus limited to an evaluation of the process of harmonization over 2000-2002.

The remainder of the paper is organized as follows: review of relevant literature on harmonization of accounting practices, followed by research methodology and hypothesis used in the paper. The final section discusses data analysis and presents results and conclusions.

Previous Research and Literature Review

Harmonization of international accounting is a topic that has continued to generate interest among accounting practictitioners, academics, investors and other users of corporate financial reports. However, the following are some studies that have tried using different techniques to determine the extent to which such efforts have been successful.

Tay and Parker (1990) distinguished between de jure and de facto harmonization. De jure harmonization refers to harmony or uniformity of accounting regulations and standards, whilst de facto harmonization refers to the actual practices of accounting. They also distinguished between harmonization as a process and harmony as a state, and standardization as a process and uniformity as a state. They concluded that, over time the most suitable concept for measurement appears to be de facto harmony.

Many studies have tried to measure harmonization by using different techniques. Nair and Frank (1980), Evans and Taylor (1982), Cohi and Bavishi (1982), McKinnon and Janel (1984), Van der Tas (1988), Purvis *et al.* (1991), Herman and Thomas (1995), Archer *et al.* (1995) and Roberts *et al.* (1996) tried to measure de facto harmony (material harmonization) as a state. Others such as Nair and Frank (1981) and Turley (1983), tried to measure de facto harmonization as a process. Also Rahman *et al.* (1996), Aisbitt (2002), Chen *et al.* (2002) tried to measure de jure harmonization (formal harmonization) as a state.

Methods used to measure harmonization have included surveys using questionnaires and statistical analysis of practice, for example Van der Tas (1988). The latter's study tried to measure the degree of harmonization, to determine when and to what extent harmonization has taken place and then to determine the impact of the organization involved in international harmonization. In order to accomplish these goals, three measurement indices were developed and applied. These were the H-index, to measure national harmonization, the I-index, to measure international harmonization and the C-index, to measure the comparability of accounts when different accounting methods are used and sufficient

levels of disclosure are provided in the notes to the accounts.

Both the H-index and the I-index developed forms are measures of concentration. The idea here is that the comparability of accounts can be considered as an increase in degree of the consensus concerning the choice between the alternative methods of accounting for an item in the financial reports. The H-index is calculated by weighting the relative frequencies of the alternative opinions against each other. Derived from the Hirschman-Herfindahl index of industrial concentration, it can be calculated using the following formula:

$$H = \sum_{i=1}^{n} pi^2$$

Where:

H = Herfindahl index.

n = number of alternative accounting methods.

Pi = the relative frequency of accounting methods.

The H-index could fluctuate between 0 (no harmony, all alternative methods with the same frequency) and 1 (all companies are using the same method). The I-index can be calculated by multiplying the relative application frequency of a method in one country by the relative application frequency of the same method in the second country, applying the same process for each method and finally adding the result of all the alternative methods. The result is an index ranging from 0 to 1 indicating the degree of material international harmony. The general formula for the I-index is:

$$I = \sum_{i=1}^{n} \left(fi^1 x fi^2 \right)$$

I = I-index.

f i = the relative application frequency of method in country 1.

n = the number of alternative accounting methods.

The general formula for the I-index must include a correction factor in the case of two or more countries, which is:

$$I = \sum_{i=1}^{n} (fi^1 x fi^2 x ... fi^m)^{i/m-1}$$

where:

fi = relative frequency of method I in country m.

m = number of countries.

n = number of alternative accounting methods.

The C-index is used to measure the national harmonization when a company provides information for several alternative methods of a particular accounting practice. It is calculated by dividing the number of pairs of companies applying the same measurement method with respect to a particular sort of transaction or event by the total number of pairs of companies in the population. The result is an index, ranging from 0 to 1.

Van der Tas (1992 b) stated that the C-index is able to include the effect of multiple reporting and the disclosure of additional information. In addition, it is a simple ratio with a 'natural' zero point where no pair of financial reports is comparable. It satisfies the criteria of a ratio scale. This makes it possible to apply regression analysis to a test of significance of movements in the degree of harmony.

Tay and Parker (1990, 1992) after reviewing Van der Tas (1988) and five other studies on the measurement of international harmonization, suggested that evidence of harmony could be derived by using the Chi- square test and the Van der Tas indices with the result that the use of a concentration index would be useful to evaluate the degree of harmony and track the movements of harmony over time. However, they pointed out that the main problem with the concentration indices is that no significant tests have been devised to indicate how (statistically) trivial or significant variations in index values are. According to them, an operational definition of harmony could take the form of comparing the observed distribution of companies among different methods with either a random distribution or some expected distribution. A suitable proxy for the former could be a uniform/equal rectangular distribution that is a distribution in which a number of companies would be expected to use each of the available alternatives. Evidence of harmony would then be the existence of significant differences between the observed and

expected distribution. According to Van der Tas (1992, a) the X^2-test is directed towards the significance of the degree of harmony itself. The significance of movement in the degree of harmony is not tested by this method.

Emenyonu and Gray (1992) used the Chi-square test to examine the significance of differences between France, Germany and the UK in respect of stock valuation, fixed assets, depreciation, goodwill, research and development expenditure and extraordinary/ exceptional accounting practices. Furthermore, they used the I-index to measure the overall level of international accounting harmony across the three countries. They found that there were significant differences among France, Germany and the UK in respect of all the practices evaluated (stock valuation, depreciation, good will, fixed assets and extraordinary items). In addition, Herrman and Thomas (1995) used both the Chi-square and the I-index to examine the level of accounting harmonization in the European Union countries (EU). They adjusted the I-index to control the I-index sensitivity to zero proportion. Their study concluded that accounting for foreign currency translation of assets and liabilities, treatment of translation differences and inventory valuation were harmonized, while accounting for fixed assets valuation, depreciation, goodwill, research and development costs, inventory costing, and foreign currency translation of revenues and expenses were not harmonized. Furthermore, they also revealed that the extent of harmonization was greater among fairness-oriented countries (Anglo Saxon countries such as the United Kingdom) than among legalistic countries (Continental Europe such as Germany and France).

Archer *et al.* (1995) developed the Van der Tas C-index by separating it into two components. One relates to the within-country (intra-national) effects of domestic standardization and the other between-country (inter-national) effects of harmonization, in order to measure the degree of harmony and the process of harmonization in the accounting practices for deferred tax and good will in eight EU countries. The study showed that in the two areas of deferred taxation and consolidated goodwill, little progress in harmonization took place

between 1986/87 and 1990/91. They added that, such progress could be attributed to the increases in comparability between countries, since the change in comparability within a country was either very small or negative. Moreover, they concluded that the lowest level of comparability exists when the accounting methods are equally distributed over the companies.

Morris and Parker (1998), Archer *et al.* (1995) have criticized Van der Tas's formulation of the I-index. They suggested that the I-index be calculated as:

$$I = \sum_{i=1}^{n} (fi^1 x fi^2 x ... fi^m)^{i/m-1}$$

where:
fi = relative frequency of method I in country m.
m = number of countries.
n = number of alternative accounting methods.

Taplin (2004) pointed out that the I-index is often preferred because it gives each country equal weight regardless of the number of sampled companies from each country. Archer *et al.* (1996) tried to develop a statistical model based upon the analytical statistical approach that had been proposed by Tay and Parker (1990) in order to estimate from the observed patterns of policy choices, the extent to which changes in harmony may be attributed to the process of international harmonization rather than to the behavior of the specific individual countries or specific companies. They proposed a different notion of harmony to provide a basis for distinguishing between conflicting components of the international harmonization process, and developed a hierarchy of nested statistical models to describe accounting policy choices made by companies through examining the treatment of goodwill and deferred taxation.

Morris and Parker (1998) made a simulation study covering three accounting methods in 10 counties in order to compare the statistical properties of the I-index and the between-country C-index as more countries are compared. They have adjusted the I-index for non-disclosures by using the same techniques used by Archer *et al.* (1995). Morris and Parker (1998) found that the I-

index and the between-country C-index are equivalent in the two-country case, while the two indices were diverge as more countries were compared. Morris and Parker (1998) concluded that the between-country C-index is superior to the corrected I-index.

Non-disclosure poses a problem for harmonization measurement (Archer *et al.* 1995; Morris and Parker, 1998; Pierce and Weetman, 2002). Prior empirical studies have either ignored non-disclosure or have formed conclusions that do not take full account of the impact of non-disclosure on the degree of harmony (Pierce and Weetman 2002). They added, Archer *et al.* (1995) distinguished two kinds of non-disclosures, those not applicable to the firm and those that are applicable but are not disclosed. Morris and Parker, (1998) set out a general formula "raw" C-index for applicable cases that are not disclosed.

This research attempts to implement the C-index proposed by Van der Tas (1988) which was developed by Archer *et al.* (1995) in order to find the degree of harmonization within the Jordanian financial reporting practices, and what factors appear to have influenced comparability. The C-index will give the probability that any pair of randomly selected companies uses the same accounting method.

This research also will attempt to implement the chi-square test which was suggested by Tay and Parker (1990) in order to have an opinion on the significance of differences, and extent of harmony as at end of 2001-2002 in respect of the de facto measurement practices of Jordanian companies.

2. RESEARCH METHODOLOGY AND HYPOTHESES

Overseas investors often hesitate to invest in companies operating in emerging nations due to the lack of transparency and lack of acceptance with internationally recognized reporting standards (Ali *et al.* 2004). There are infinite numbers of differences that can exist in the disclosure provided by companies (Doupnik and Perera 2007). The level of disclosure of adequate and reliable information by companies in emerging nations lags behind developed western capital markets, and regulatory bodies are less effective in enforcing the existing accounting regulations (Saudagaran 2001). He added, the government regulatory bodies and the accounting and auditing profession suffer from structural weaknesses and often take a lenient attitude, that result in wide scale violations of accounting and securities regulations by companies in those countries.

Jordan is now encouraging local and foreign investments in order to create a more open and accessible economy providing more profitable and realizable business opportunities. To assist this, Jordan like other developing countries has adopted the IASs. Many studies were made to measure the degree of harmonization in western countries, but nothing is made towards measuring the degree of harmonization between Middle East countries or within a country in the Middle East. The benefit for this research is to know whether the Jordanian accounting information is comparable with international practices and therefore, different investment opportunities may be properly assessed and evaluated.

The main research issue is how accounting harmonization is taking place within Jordan. To deal with it, three questions are formulated as follows:

- Is it advantageous for Jordan to achieve accounting harmonization?
- To what degree is accounting harmonization taking place in Jordan?
- What is the best option for Jordan to achieve accounting harmonization?

The study is restricted to industry companies. Industry companies are chosen to measure the degree of harmonization in accounting practices by Emenyonu and Gray (1992), Herrmann and Thomas (1995), Archer et al. (1995), Morris and Parker (1998). Van der Tas (1988) stated that only companies in a limited number of sectors such as banking and insurance are thought to be in such a special position that separate provisions are necessary.

To examine the practice part, seven measurement practices are chosen. They are: inventory costing and valuation methods, goodwill, research and development

costs, fixed assets valuation methods, depreciation, investments in securities and foreign currency translation. The variables have been chosen because they can significantly affect measures of assets and profits, depending on the choice of treatment adopted by a company. Some other accounting measurements such as accounting for deferred tax, accounting for leasing, and accounting for employees benefits are not considered for the purposes of this study since these measurement practices are not commonly practice by the Jordanian companies. In addition, information relating to the particular method adopted for treating each of the variables is commonly available from the "accounting polices" section of most companies' annual reports, or can be deduced from the notes to their accounts. The research expects to find that the accounting practices are the same within Jordan. Therefore, the general hypothesis to be used is stated below in the alternative form for the purposes of statistical testing:

H_A: There are significant differences in accounting measurements used by the Jordanian industrial listed companies.

3. TOOLS OF ANALYSIS

As already mentioned, two statistical tools were used. Kruskal Wallis test is used to assess whether the measurement practices by companies in Jordan are significantly different. The same technique was used by Emenyonu and Gray (1992) to examine the significance of differences between France, Germany and the UK in respect of stock valuation, depreciation, goodwill, research and development expenditure and extraordinary/ exceptional accounting practices. In addition, Herrman and Thomas (1995) used both the Chi-square and the I-index to examine the level of accounting harmonization in the EC.

The C-index proposed by Van der Tas (1988), was used in order to find the degree of harmonization within Jordan in order to determine what factors appear to have influenced comparability. It is calculated by dividing the number of pairs of companies applying the same measurement method with respect to a particular sort of transaction or event by the total number of pairs of companies in the population. The result is an index, ranging from 0 to 1. The C-index was calculated by using the following formula:

$$C = \frac{(\sum_{i=1}^{m} a^2 t) - n}{n^2 - n}$$

Where:
C = C-index.
at = the number of companies applying measurement method.
m = number of alternative measurement methods.
n = total number of companies.

Data for the study were collected from 2000-2002 annual reports of 77 Jordanian industrial companies. Those companies were chosen because they were listed at the end of 2000 and continued to be listed at the end of 2002. The sample size represents (90%) of the total Jordanian industrial listed companies at the end of 2002.

4. PRESENTATION OF DATA ANALYSIS OF TEST RESULTS

In this section, the test results and main findings of the research are presented. This is accompanied by a discussion of the measurement requirements by IASs with respect to the seven practices studied.

Inventory Costing Methods
IAS 2 defines inventories as assets held for sale in the ordinary course of business, or in the process of production for such sale or in the form of materials, or supplies to be consumed in the production process, or in the rendering of services. To determine the cost of inventories, IAS 2 required the First In- First Out (FIFO) or the Weighted Average (W-A) methods as benchmark treatments, while the Last In First Out (LIFO) method

was allowed as an alternative. If the (LIFO) method is applied, the standard requires the disclosure of the difference between the amount of inventories as shown in the balance sheet either by reference to (a) the lower of (FIFO) or (W-A), and the net realizable value of those inventories or by reference to (b) the lower of their current cost and net realizable value.

To test the degree of harmonization for the issue of inventory costing methods within Jordan, the following is the first sub alternative hypothesis used:

H_{A1}: There are significant differences in inventory costing methods used within the Jordanian accounting practices over the periods 2000-2002.

For the purposes of this study, three categories of methods were identified: FIFO, W-A and a Mixed between the two methods (some Jordanian companies used the W-A costing method to account for raw material and the FIFO costing method to account for finished goods). This categorization was based on the stated accounting polices of the reporting firms. Two additional categories were added, for all variables "not disclosed" to the item that is noticed in the financial report, but nothing is disclosed relating to the accounting policy used, and "not applicable" to the item that is not noticed in the financial reports and as a conclusion after reading the whole financial report of a company.

From Table (1), it can be seen that both the FIFO and the W-A costing methods are used by the Jordanian companies since these two methods are required as a benchmark treatment under the IASs. Table (1) shows a

low level degree of harmonization within the Jordanian companies. The C-index is no more than 37.6 % and the chi-square is significant over time (the p-value is less than 0.05). As a result, the alternative hypothesis will be rejected and the conclusion is that there are no significant differences in the inventory costing methods within Jordan.

It is noticed that the two techniques, the C-index and the chi-square tests, do not indicate the same results at the same time. The difference in the results could explain the reason behind using indices in measuring the degree of harmonization by different studies after the 1990s.

The low degree of harmony is attributed to the divergence in accounting practices by the Jordanian companies. Archer et al. (1995) concluded that the lowest level of comparability exists when the accounting methods are equally distributed over the companies.

Inventory Valuation Methods

IAS 2 requires that the cost of inventory carried, should not be in excess of the amounts expected to be realized from their sale or use, and that, therefore, inventories should be written down to the net realizable value on an item by item basis or on the basis of grouping together similar or related items that cannot be evaluated separately. The standard also requires that the estimation of the net realizable value should be based on the most reliable evidence available. To test the degree of harmonization in the inventory valuation practices within Jordan, the following is the second sub alternative hypothesis used:

Table (1)
Inventory Costing Methods.

Country	Year	FIFO	W-A	Mixed	Not Disclosed	Not Applicable	Total	C-Index Within Jordan	Within Jordan X^2 (Asym. Sig.)
Jordan	2000	31 (40%)	27 (35%)	5 (6%)	9 (12%)	5 (7%)	77	**0.344**	27.778 (0.000)
	2001	32 (42%)	33 (43%)	5 (6%)	5 (6%)	2 (3%)	77	**0.376**	40.360 (0.000)
	2002	28 (36%)	31 (40%)	10 (13%)	6 (8%)	2 (3%)	77	**0.325**	25.320 (0.000)

H_{A2}: There are significant differences in inventory valuation methods used within Jordan over the periods 2000-2002.

For the purposes of this study, three categories of methods were identified: cost, lower of cost or market value and sales price less a fixed rate. This categorization was based on the actual accounting practices by the reporting firms.

Table (2) shows that the degree of harmony within Jordan is 72.4 % for 2000 and is increased to 77.6% in 2001 and decreased to 73.3% in 2002. The chi-square test within Jordan is significant all over the time. As a result, the alternative hypothesis will be rejected, and the conclusion is that there is no significant difference in the inventory valuation methods within Jordan.

Goodwill

IAS 22 defined goodwill as the residual cost of a business acquisition that cannot be assigned either to tangible assets, to net of any liabilities assumed or to identifiable intangibles. IAS 22 requires that goodwill arising from acquisitions must be recognized as an asset and amortized over a useful life not exceeding twenty years. IAS 38 has ruled out the concept of intangible assets having infinite or indefinite lives by imposing additional burdens on those who would assign lives greater than twenty years to such asset (Epstein and Mirza, 2003).

To test the degree of harmonization within Jordan, the following is the third sub alternative hypothesis used:

H_{A3}: There are significant differences in the goodwill amortization period within Jordan over the periods 2000-2002.

Two categories based on the stated accounting polices of the reporting firms of methods were identified: to be amortized within twenty years and to be amortized over than twenty years.

Table (2)
Inventory Valuation Methods.

Country	Year	Cost	Lower C/M.V	Sales Price Less %	Not Disclosed	Not Applicable	Total	C-Index Within Jordan	Within Jordan X^2 (Asym. Sig.)
Jordan	2000	6 (8%)	61 (79%)	1 (1%)	4 (5%)	5 (7%)	77	**0.724**	137.667 (0.000)
	2001	1 (1%)	67 (87%)	4 (5%)	3 (4%)	2 (3%)	77	**0.776**	165.800 (0.000)
	2002	2 (3%)	64 (83%)	5 (6%)	4 (5%)	2 (3%)	77	**0.733**	145.853 (0.000)

Table (3)
Amortization of Goodwill.

Country	Year	Less than 20 Years	More than 20 Years	Not Disclosed	Not Applicable	Total	C-Index Within Jordan	Within Jordan X^2 (Asym. Sig.)
Jordan	2000	3 (4%)	0 (0%)	0 (0%)	74 (96%)	77	**1.00**	Not Calculated
	2001	3 (4%)	0 (0%)	0 (0%)	74 (96%)	77	**1.00**	Not Calculated
	2002	5 (6%)	0 (0%)	0 (0%)	72 (94%)	77	**1.00**	Not Calculated

Table (3) shows that the Jordanian companies have a full compliance with IAS requirements. The same table shows that 100 % is the degree of harmony all over the period under the study. The chi-square test is not calculated since there are no differences in the accounting practices in Jordan concerning this issue.

Research and Development Costs

IAS 38 requires that research costs are to be expensed as incurred, but the development costs are to be deferred. The standard also recognizes that the development stage is more advanced than the research stage and that the enterprise can possibly, in certain cases, be identified as an intangible asset and demonstrate that this asset will probably generate future economic benefits for the organization. As a consequence of applying the above criteria, the following costs are expensed as they incurred: research costs, reopening costs, organization costs (legal costs), training costs, advertising costs, restructuring costs and other costs such as customer list, brands and publishing titles (Epstein and Mirza 2003). IAS 38 requires that intangible asset is subject to rational and systematic amortization over a shorter useful life with a maximum twenty year life.

It is noticed that under of IAS 38 research cost should be expensed as they incurred, while the development costs may be capitalized. To test the degree of harmonization within Jordan, the following is the fourth sub alternative hypothesis used:

H_{A4}: There are significant differences in the accounting practices for research and development costs within Jordan over the periods 2000-2002.

Looking at financial reports for the Jordanian listed companies indicates that very few companies distinguish between research costs and the development costs, and therefore, it is noticed that research and development costs are capitalized and presented in the balance sheet. Furthermore, the startup costs and other costs such as training and restructuring costs are treated as part of research and development costs.

For the purposes of this study, two categories of methods are identified: capitalized and immediate write off. This categorization was based on the stated accounting polices of the reporting firms.

Table (4) shows that the C-index is 83.4% in 2000, and decreased to 71.9 % in 2001 and increased to 75.2 % in 2002. The chi-square test within Jordan is significant all over the time. As a conclusion, the accounting practices concerning research and development costs are harmonized within Jordan.

Table (5) shows the amortization of research and development costs practices by Jordanian companies. The C-index is 51.4 % in 2000, increased to 59 % in 2001, and decreased again to 46.7 % in 2002. The chi-square test is significant for 2000 and 2001; but it is not significant for 2002. The conclusion here is that the accounting practices concerning the amortization of research and development costs are comparable within Jordan for 2000 and 2001 but they are not for 2002.

Table (4)
Research and Development Costs.

Country	Year	Capitalized	Immediate Write off	Not Disclosed	Not Applicable	Total	C-Index Within Jordan	Within Jordan X^2 (Asym. Sig.)
Jordan	2000	21 (27%)	2 (3%)	0 (0%)	54 (70%)	77	**0.834**	13.500 (0.000)
	2001	16 (21%)	0 (0%)	3 (4%)	58 (75%)	77	**0.719**	8.895 (0.003)
	2002	13 (17%)	0 (0%)	2 3%	62 (80%)	77	**0.752**	8.067 (0.005)

Table (5)
Amortization of Research and Development Costs.

Country	Year	Immediate Write off	Between 5-20 Years	Did not Disclose	Not Applicable	Total	C-Index Within Jordan	Within Jordan X^2 (Asym. Sig.)
Jordan	2000	2 (3%)	13 (17%)	8 (10%)	54 (70%)	77	**0.514**	7.913 (0.019)
	2001	0 (0%)	14 (18%)	5 (6%)	58 (76%)	77	**0.590**	4.263 (0.039)
	2002	0 (0%)	8 (10%)	7 (9%)	62 (81%)	77	**0.467**	0.067 (0.796)

Fixed Assets

IAS 16 requirements for measuring fixed assets are that they should be carried at their cost less any accumulated depreciation as a benchmark treatment, while a re-valued amount which is less any subsequent accumulated depreciation may be adopted as an alternative. It is noticed that IAS requires the historical cost as a benchmark treatment, and the revaluation as an alternative method to be used to account for fixed assets valuation.

To test the degree of harmonization regarding the issue of fixed assets valuation within Jordan, two categories of methods are identified: the cost and both cost and modified. The following is the fifth sub alternative hypothesis used:

H_{A5}: There are significant differences in the accounting practices for fixed assets valuation methods within Jordan, over periods 2000-2002.

Table (6) shows that the C-index is very high over time. The chi-square test is significant all the time. Therefore, the alternative hypothesis will be rejected and a conclusion is that there are no differences in the accounting practices within Jordan, concerning the valuation of fixed assets.

Depreciation Expense

With regard to the depreciation method applied to fixed assets, IAS 16 requires a periodic review of the expected pattern of economic benefits from those assets and therefore, the method should be changed to reflect any variation in such patterns. The method of depreciation is based on whether the useful life is determined as a function of time or as a function of actual physical usage. In addition, the standard requires a periodic review of the carrying amount of fixed assets, in order to assess whether the recoverable amount has declined below the carrying amount, and if it has, the reduction should be recognized as an expense unless it reverses a previous revaluation.

To test the degree of harmonization for the issue of depreciation expense within Jordan, two categories of methods are identified: the straight line method and both the straight line and the declining methods were chosen. The categorization is made based on the actual accounting practices by the Jordanian companies. The following is the sixth sub alternative hypothesis used:

H_{A6}: There are significant differences in the accounting practices for depreciation within Jordan over periods 2000-2002.

Table (7) shows that the C-index is very high over time. It is greater than 81.1 %. The chi-square test is significant all the time at 0.05 level. Therefore, it could be said that the alternative hypothesis will be rejected, and a conclusion that there are no differences in the depreciation practices within Jordan.

Table (6)
Fixed Assets.

Country	Year	Cost	Cost & Modified	Not Disclosed	Not Applicable	Total	C-Index Within Country	Within Jordan X^2 (Asym. Sig.)
Jordan	2000	75 (97%)	2 (3%)	0 (0%)	0 (0%)	77	**0.949**	69.208 (0.000)
	2001	76 (99%)	1 (1%)	0 (0%)	0 (0%)	77	**0.974**	73.052 (0.000)
	2002	76 (99%)	1 (1%)	0 (0%)	0 (0%)	77	**0.974**	73.052 (0.000)

Table (7)
Depreciation Expense

Country	Year	Straight Line	Straight + Declining	Not Disclosed	Not Applicable	Total	C-Index Within Jordan	Within Jordan X^2 (Asym. Sig.)
Jordan	2000	73 (95%)	4 (5%)	0 (0%)	0 (0%)	77	**0.900**	61.831 (0.000)
	2001	70 (91%)	7 (9%)	0 (0%)	0 (0%)	77	**0.833**	51.545 (0.000)
	2002	69 (90%)	8 (10%)	0 (0%)	0 (0%)	77	**0.811**	48.325 (0.000)

Investments in Securities

Current Investments

IAS 39 requires that debt and equity securities held as investments, are to be accounted for at fair value, if held for trading or, if otherwise, is available for sale. In the case of investments held for trading purposes, changes in fair value from period to period are included in operating results. On the other hand, in the case of investments classified as available-for-sale, the changes in fair value may either be included in current operation results, or recognized directly in equity through the statement of changes in equity. Still, each reporting entity must make onetime election of which of those alternatives. It is noticed that IASs gives two alternatives to deal with the changes in fair value of available-for-sale investments to be charged to current operation or to equity. To test the degree of harmonization for the issue of current investments within Jordan, three categories of methods were identified: cost, trade (market value) and lower of cost or market value. The following is the seventh sub alternative hypothesis used:

H_{A7}: There are significant differences in the accounting practices for current investments within Jordan over periods 2000-2002.

Table (8) shows that a large number of Jordanian companies do not have current investments, it is noticed that 88% of the Jordanian companies were considered under not applicable category. The table also shows that the C-index is 26.7 % for 2000; it has decreased to 22.2% for both 2001 and 2002. The low level of harmonization could be attributed to the fact that some measurement methods used by companies from Jordan do not always comply with the requirements of IAS. The chi-square test reveals that there is no enough evidence to reject the alternative hypothesis. The p-value is greater than 0.05, and the conclusion is that the accounting practices concerning current investments accounting in Jordan are not harmonized.

Long Term Investments in Securities

To test the degree of harmonization for the issue of long term investments in securities within Jordan, three categories of methods are identified: cost, Available–for-Sale (market value) and the lower of cost or market value. The following is the eighth sub alternative hypothesis used:

H_{A8}: There are significant differences in the accounting practices for long term investments in stocks within Jordan over periods 2000-2002.

Table (9) shows that the Jordanian companies use the cost method or the lower of cost and market value to measure long term investments in securities in spite of the fact that these two methods are not required by IASs. The C-index is 28.3 % for 2000, has improved overtime as a result of the increase in applying available for sale method which is required by IAS 39. The chi-square test

is significant all over time. Therefore, the alternative hypothesis will be rejected and the conclusion is that accounting practices for long investments in securities are harmonized within Jordan.

Investments in Associates

In the case of investments in associates, IAS 28 requires that the equity is intended for use where the reporting entity has significant influence over the operations of other entity, but lacks control. In general, significant influences are inferred when the investor owns between 20% and 50% of the invitee's voting common stock. To test the degree of harmonization for the issue of investments in associates within Jordan, three categories of methods are identified: the cost method, the equity method and the lower of cost and market value method. The following is the ninth sub alternative hypothesis used:

Table (8)
Current Investment in Securities.

Country	Year	Cost	Trade	Lower C/M.V.	Not Disclosed	Not Applicable	Total	C-Index Within Jordan	Within Jordan X^2 (Asym. Sig.)
Jordan	2000	1 (1%)	4 (5%)	4 (5%)	1 (1%)	67 (88%)	77	**0.267**	3.600 (0.308)
	2001	2 (3%)	4 (5%)	2 (3%)	1 (1%)	68 (88%)	77	**0.222**	0.141 (0.707)
	2002	2 (3%)	4 (5%)	2 (3%)	1 (1%)	68 (88%)	77	**0.222**	2.000 (0.368)

Table (9)
Long Term Simple Investment in Securities.

Country	Year	Cost	Available for Sale	Lower C/M.V.	Not Disclosed	Not Applicable	Total	C-Index Within Jordan	Within Jordan X^2 (Asym. Sig.)
Jordan	2000	14 (18%)	4 (5%)	12 (16%)	6 (8%)	41 (53%)	77	**0.283**	7.556 (0.056)
	2001	5 (6%)	27 (35%)	3 (4%)	6 (8%)	36 (47%)	77	**0.462**	36.951 (0.000)
	2002	0 (0%)	30 (39%)	1 (1%)	5 (6%)	41 (54%)	77	**0.706**	41.167 (0.000)

H_{A9}: There are significant differences in the accounting practices for investments in associates within Jordan over the periods 2000-2002.

Table (10) shows that a large number of Jordanian companies do not have investments in associates. It is noticed that at least 74% of Jordanian companies were considered under the not applicable category. The table also shows that some of Jordanian companies used the cost method to account for investments in associate in spite of the fact that the equity method is required by IAS 28.

Table (10) shows that 34 % is the C-index for 2000; it improved to 46.8 % for 2001 and continued improving for 2002. The chi-square test is significant all the time. Therefore, the alternative hypothesis will be rejected and the conclusion is that the accounting practices within Jordan are harmonized concerning investments in associates.

Foreign Currency Translation

IAS 21 defines a foreign currency translation as a transaction that requires settlement in a foreign currency when an enterprise has transactions predominantly in a foreign currency. Therefore, the standard requires that a foreign transaction should be recorded on initial recognition in the reporting company by applying to the foreign currency amounts of the exchange rate between the reporting currency and the foreign currency at the date of the transaction. With regard to the exchange differences arising on settlement on monetary items at

rates different from those at which they were initially recorded, the standard requires, as a benchmark treatment, that they should be recognized as an income or as an expense in the period in which they arise. The inclusion of such amount in the carrying amount of the related assets is an alternative treatment when the differences arise directly on the recent acquisition of an asset, and the enterprise is unable to settle or hedge the foreign currency.

To test the degree of harmonization for the issue of foreign currency translation within Jordan, two categories of methods are identified: closing rate and exchange rate. The following is the tenth sub alternative hypothesis used:

H_{A10}: There are significant differences in the accounting practices for foreign currency translation within Jordan over the periods 2000-2002.

Table (11) shows that some Jordanian companies do not consider any change in the foreign currency at the date of preparing financial reports. In addition a large number of Jordanian companies do not disclose the accounting policy used to account for foreign currency translation. The table also indicates that the C-index is 46.2 % for 2000 and it improved over time. The chi-square is significant all the time; the p-value is less than 0.05. The alternative hypothesis, therefore, will be rejected and the conclusion is that the accounting practices concerning foreign currency translation within Jordan are comparable all the time.

Table (10)
Investments in Associates.

Country	Year	Cost	Equity Method	L/C & M.V.	Not Disclosed	Not Applicable	Total	C-Index Within Jordan	Within Country X^2 (Asym. Sig.)
Jordan	2000	6 (8%)	9 (12%)	2 (3%)	1 (1%)	59 (76%)	77	**0.340**	9.111 (0.028)
	2001	5 (6%)	13 (17%)	0 (0%)	2 (3%)	57 (74%)	77	**0.468**	9.700 (0.008)
	2002	3 (4%)	12 (16%)	0 (0%)	2 (3%)	60 (77%)	77	**0.515**	10.706 (0.005)

Table (11)
Foreign Currency Translation.

Country	Year	Closing Rate	Exchange Rate	Not Disclosed	Not Applicable	Total	C-Index Within Jordan	Within JordanX^2 (Asym. Sig.)
Jordan	2000	45 (59%)	5 (6%)	27 (35%)	0 (0%)	77	**0.462**	31.273 (0.000)
	2001	53 (69%)	9 (12%)	14 (18%)	1 (1%)	77	**0.528**	45.816 (0.000)
	2002	52 (68%)	13 (17%)	11 (14%)	1 (1%)	77	**0.512**	42.184 (0.000)

Table (12)
The Exchange Differences.

Country	Year	P&L	Included in its Related Assets	Not Recognized	Not Disclosed	Not Applicable	Total	C-Index Within Jordan	Within Jordan X^2 (Asym. Sig.)
Jordan	2000	42 (55%)	2 (3%)	5 (6%)	28 (36%)	0 (0%)	77	**0.431**	34.333 (0.000)
	2001	47 (61%)	1 (1%)	9 (12%)	19 (25%)	1 (1%)	77	**0.452**	48.119 (0.000)
	2002	52 (68%)	0 (0%)	13 (17%)	11 (14%)	1 (1%)	77	**0.512**	26.683 (0.000)

With regard to the accounting practices for exchange differences, Table (12) shows that the C-index is 43.1 % for 2000 and it is improved with time. The chi-square test is significant, therefore, it could be said that the accounting practices within Jordan concerning the treatment of the exchange differences is comparable.

5. SUMMARY AND CONCLUSION

This study attempts to explain the advantages of harmonization of accounting practices in Jordan, the degree in accounting harmony taking place, and the best option for Jordan to achieve accounting harmonization.

The explosive growth in international business and the challenges created by the related spread of international investment activities have focused on the need to understand the variety of financial reporting practices, which exist around the world in order to help users and decision makers to evaluate investment opportunities.

In the last two decades, Jordan made big efforts to encourage foreign investments. One of many tools used by Jordan is the adoption of IAS that can facilitate the communication between investors and companies as a result of harmonization of accounting practices.

A survey of accounting practices is made to judge whether the asset and profit measurement practices in Jordan are significantly different and the overall extent of accounting uniformity or harmony within Jordan is calculated. Two statistical tools were used. The Chi-square test was used to assess whether the measurement practices by companies within Jordan are significantly different, and the C-index was used to find the degree of harmonization within Jordan in order to determine what factors appear to have influenced comparability.

The results indicated that the Jordanian accounting

practices concerning inventory valuation and costing, goodwill, research and development costs, fixed assets valuation, depreciation, long term investments, investments in associates and foreign currency translation are not significantly different. The results also showed that the Jordanian accounting practices concerning the amortization of research and development costs, current investments are significantly different. The results indicated that the accounting practices concerning inventory valuation, goodwill research and development costs, fixed assets, depreciation have a high level of comparability, while the accounting practices concerning inventory costing, amortization of research and development costs, current investments, investments in associates, foreign currency translation and exchange differences have a low level of comparability. It is noticed that both of the chi-square and the C-index do not indicate the same results all the time.

The survey showed that some Jordanian companies do not comply with the requirements of IAS all the time. The study showed that some measurement methods used by Jordanian companies are not allowed by IAS. For example, it is noticed that the cost method and the sales price less a % method were used to deal with inventory. Moreover, the cost and the lower of cost and market value methods were used by some Jordanian companies to deal with long term investments. In addition, startup cost and research cost were capitalized by Jordanian companies. Therefore, it could be said that non compliance with the requirements of international financial reporting standards will affect the quality of the Jordanian financial information.

The survey of accounting practices has revealed that compliance with the IAS requirements may not lead to a high degree of harmony. The study noticed that the degree of harmony within Jordan concerning inventory costing methods was 34.4%, 37.6% and 32.5% for 2000, 2001 and 2002, respectively in spite of the fact that most of the Jordanian companies followed the requirements of the IAS2. The results are consistent with Van der Tas (1992) arguments. According to him, if compliance with international standards is high, this does not necessarily mean that the degree of harmony is high, because the standard may leave many options, all of which are exercised by the companies. He added that if compliance is low, the degree of harmony may be high, if all companies apply the same method, not allowed by the standard. Therefore, it could be said that the elimination of the options provided by the International Financial Reporting Standards (IFRS) could be the best solution to increase the degree of harmonization within Jordan.

It is also noticed that a large number of Jordanian companies did not disclose some of the accounting polices used. Moreover, a large number of companies were considered under "not applicable" category. Therefore, a future study can be made to measure the degree of compliance with IAS' disclosure requirements by Jordanian listed companies. A further study can be made to investigate non compliance with the international accounting standards and the role of the regulatory bodies in enforcing the existing accounting regulation and their attitudes towards violations of accounting regulations by some of Jordanian listed companies.

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مدى قابلية القوائم المالية الأردنية للمقارنة

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ملخص

تهدف هذه الدراسة الى معرفة مدى قابلية القوائم المالية الاردنية للمقارنة وذلك من خلال تحديد درجة المقارنة وكذلك العوامل المؤثرة فيها. ولتحقيق اهداف الدراسة تم اجراء مسح ميداني شامل للممارسات المحاسبية الفعلية خلال الفترة الواقعة بين عامي 2000 و2002. كذلك فقد تم استخدام الاختبار الاحصائي مربع كاي لمعرفة ما اذا كان هناك فرق جوهري ذو دلالة احصائية في الممارسات المحاسبية الأردنية المتعلقة بطرق تسعير وتقييم المخزون، والشهرة، ومصاريف البحث والتطوير، والاصول الثابتة، والاستهلاك، والاستثمارات، وترجمة العملات الاجنبية. بالإضافة إلى ذلك فقد تم ايجاد (The C-index within a country) وذلك بهدف تحديد درجة المقارنة.

أشارت نتائج هذه الدراسة الى عدم وجود فروقات ذات دلالة احصائية للممارسات المحاسبية المتعلقة بطرق تسعير وتقييم المخزون، والشهرة، ومصاريف البحث والتطوير، وتقييم واستهلاك الأصول الثابتة، والاستثمارات طويلة الاجل، والاستثمارات في الشركات التابعة وكذلك ترجمة العملات الاجنبية. أما فيما يتعلق بطرق معالجة الاستثمارات البسيطة فقد اشار اختبار مربع كاي الى وجود اختلاف جوهري ذي دلالة احصائية لتلك الممارسات.

كذلك فقد اشارت نتائج الدراسة إلى ارتفاع معدل المقارنة (The C-index) بين القوائم المالية الاردنية فيما يتعلق بالممارسات المحاسبية التالية: تقييم المخزون، ومصاريف البحث والتطوير، والاصول الثابتة واستهلاكها، اما فيما يتعلق بطرق تسعير المخزون، واستهلاك مصاريف البحث والتطوير، والمعالجة المحاسبية للاستثمارات قصيرة الاجل، والاستثمارات في الشركات التابعة، وكذلك ترجمة العملات الاجنبية فقد اشارت الدراسة الى تدن في معدل المقارنة.

وأخيراً، اشارت نتائج الدراسة إلى أن تضمن معايير المحاسبة الدولية لاكثر من طريقة بديلة ومسموح بها له تأثير سلبي على معدل المقارنة بالرغم من التزام الشركات الأردنية بتطبيق تلك المعايير الدولية، وبالتالي فان اعتماد احد هذه البدائل فقط من قبل التشريعات الأردنية يمكن اعتباره أحد البدائل المتاحة لزيادة معدل المقارنة بين القوائم المالية الاردنية وبالتالي تخفيف درجة الاختلاف في الممارسات المحاسبية ما امكن.

الكلمات الدالة: درجة المقارنة، الممارسات المحاسبية، C-index.

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