

A regional professional society dedicated to the promotion of the highest accounting, auditing and ethical standards and to capacity building through the institution of globally recognized educational and examination qualification programs.

In This Issue

ASCA News

ASCA has held number of Training Courses

A group of ACPA Holders Graduated In Ramallah

ASCA Published the Arabic translated version of the 2008 Handbook of International Handbook of International Auditing, Assurance, And Ethics Pronouncements.

New ASCA Members

International professional News

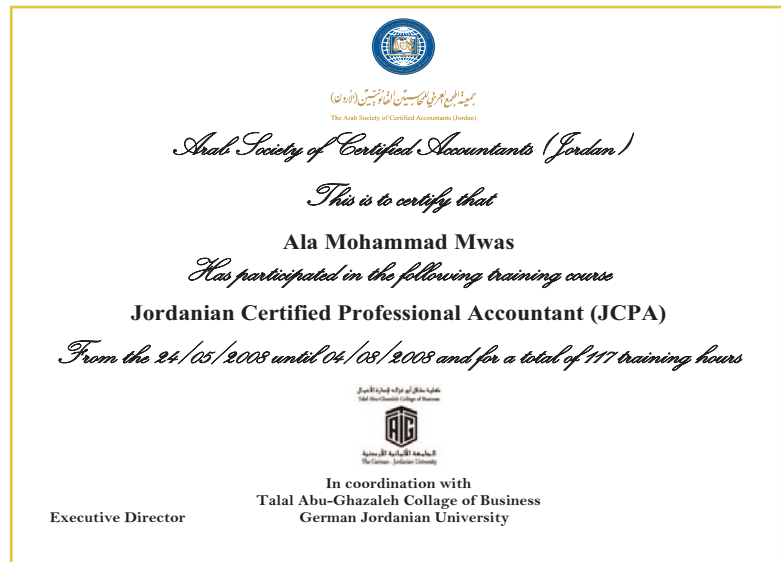
Malaysian standard setter to complete IFRS adoption by 2012

Articles

Tax advisor (Part One)

Audit Risk Assessment – the Professional Balancing Act

In cooperation with TAG Academes ASCA has held number of Training Courses



In cooperation with TAG Academes ASCA has held the following Training Courses:

1. **Jordan Certified Professional Accountant (JCPA).**
2. **International Financial Training Courses**

These courses aim to provide participants who are specialized in accounting, auditing and financial management at all different levels, with the necessary skills and experience in the public and private sectors. Lecturing, in the above Training Courses, was assigned to a number of specialized and experienced lecturers from various Jordanian Universities.

Under the Auspices of the Arab Society of Certified Accountants and
in cooperation with the Professional Academy of Management Sciences
A Group of ACPA Holders Graduates in Palestine

Abu-AI Rub : ACPA is competitive with similar certificates

Hassouneh : Obtaining the ACPA certificate qualifies graduates for the profession



Professional Academy of Management and Financial Sciences in Ramallah - Palestine was held A graduation ceremony on July 28, 2008 for a new group of the who passed ACPA examination under the auspices of the Arab Society of Certified Accountants, Palestinian Accountant & Auditors Association and Talal Abu-Ghazaleh and Co. International. The ceremony was attended by Dr. Mahmoud Abu Al-Rub, President of State Audit and Administrative Control Bureau, Abdulkarim Sagheer, representative of the Minister of Education, Mrs. Janait Michael, Mayor of Ramallah and a number of officials, bank managers, university professors, representatives of economic institutions and families of graduates.

Abu-AI Rub: ACPA is competitive with similar American certificates in the field of practicing audit engagements

The presenter of the ceremony emphasized the role played by certified accountants in regulating the profession and providing the Palestinian economy and labor market with national professional staff. Dr. Mahmoud Abu- AIRub highlighted the importance of obtaining the certificate of Arab Certified Public Accountant "ACPA" which is competitive with similar American certificates in the field of international scientific and practical standards for practicing audit engagements and the professional code of ethics

issued by the International Federation of Accountants.

He also praised the role of both the Arab Society of Certified Accountants and Talal Abu-Ghazaleh and Co. International in adapting the international and scientific requirements in the field of accounting, and one of such mechanisms is the granting of this important certificate.

AL- Sahgeer: The Ministry of Education is keen to disseminate the accounting culture

The representative of the Minister of Education Mr. Abdulkarim Al- Sagheer indicated the interest of the Ministry to disseminate the culture of accounting, auditing and transparency and to support students of Palestinian universities in the fields of accounting, management and finance. He also pointed out that the number of students in these specializations for 2007-2008 reached 6288 male and female students. This means that the Palestinian universities provide the local community with more than 1500 graduates in the fields of banking, management and accounting.

Hassouneh: obtaining the ACPA certificate qualifies graduates to work in a professional and certified manner

Mr. Akram Hassouneh, the Chairman of the Society of Certified Auditors made clear that passing ACPA examination and

obtaining the ACPA certificate approved by the University of Cambridge qualifies graduates to work in a professional and certified manner. He also expressed the appreciation of the Society of Certified Auditors for the efforts exerted by ASCA, Talal Abu- Ghazaleh and Co. International and the Professional Academy of Management and Financial Sciences and for their care and sponsorship of the Arab accountants through holding appropriate academic and practical programs and granting professional certificates to accountants.

The top student of graduates Fatin AL-Sulaibi delivered a speech in which she expressed the appreciation of students to their teachers in the Professional Academy and to the Arab Society of Certified Accountants "ASCA" for their efforts and interest. She pointed out to the great efforts exerted by students to reach this advanced level and pass the examinations of the widely recognized ACPA.

Dr. Hamad: The graduates are a support for the profession, control and transparency.

Dr. Shadi Hamad, the Manager of the Professional Academy of Management and Financial Sciences, considered that the group of graduates is a real aid to the

certified accountants and a support for the profession, control and financial transparency in national companies and organizations. He also indicated the attention paid by the Academy to the practical training programs and the translation of academic study into professional practical experience in the field of accounting and auditing. This will qualify graduates to sit for ACPA examination and to efficiently practice the profession in any place.

Presenting the certificates

At the end of the ceremony, Dr. Mahmoud Abu- AIRub, Dr. Shadi Hamad and members of the platform of honor graduated the students of certified accountants and awarded them the certificates. The number of graduates is 29 and their names are as follows: Fatin Al Sulaibi, Raida Abu Zaineh, Ibrahim Salameh, Ibrahim Al- Sha'ar, Ahmed Abu Duhair, Osama Sabri, Amjad Khalid, Burhan Saleh, Bilal Mustafa, Khalil Askalan, Raid Abdul- Al, Shadi Albd, Shadi Orman, Imad Al Shaikh Kasem, Alam Al-Zukkam Ghada Al-haj Hasan, Fadi Hamad, Laila Al- Shaar, Mazen Najjar Maher Al-Mimi, Mohammad Abu- AIRub, Mohammad Abu- AIRub, Mohammad Arafat, Mahmoud Al-Rafi, Mustafa Duwaikat, Nael Al Haj Mohammed, Naser Taher, Nidal Nayrouk, Hani Nazzal, Haya Al- Masri.

ASCA (Jordan) published the Arabic translated version of "The 2008 Handbook of International Auditing, Assurance, And Ethics Pronouncements"

Part I

It includes information about the International Federation of Accountants (IFAC), the Code of Ethics, Auditing, Review, Other Assurance, and Related Services

Part II

It includes information about the (Clarity project) of the International Auditing and Assurance Standards Board (IAASB) and an amended preface to the International Standards on Quality Control, Auditing, Review, Other Assurance and Related Services, in addition to the following redrafted standards:-

- **ISA 230 (Redrafted), "Audit Documentation,"**
- **ISA 260 (Revised and Redrafted), "Communication with Those Charged with Governance,"**
- **ISA 540 (Revised and Redrafted), "Auditing Accounting Estimates, Including Fair Value Accounting Estimates, and Related Disclosures;"**
- **ISA 600 (Revised and Redrafted), "Special Considerations—Audits of Group Financial Statements (Including the Work of Component Auditors);"** and
- **ISA 720 (Redrafted), "The Auditor's Responsibility in Relation to Other Information in Documents Containing Audited Financial Statements."**



New ASCA Members

Mr. Amier Akram Ali Al-Sawaf from Iraq **Mr. Osama Mohammad Iqailan Fares** - **Mr. Majed Khader Hasan Al-Labdi** - **Mr. Fares Mohammad Khear Sandied** from Jordan **Mr. Mohammad bin Ali Al-Shanfari** from Oman **Mr. Omar Mustafa Ahmad Al Qaisi** from Palestin **Mr. Mosab Barakat Ahmad Ali** from Sudan

International professional News

Malaysian standard setter to complete IFRS adoption by 2012

The Malaysian Accounting Standards Board (MASB) has set 1 January 2012 as the deadline for full adoption of IFRS.

Malaysia has followed IAS since 1978 and all the provisions of the international standards have been incorporated into Malaysian accounting standards since then.

Explaining the recent history of Malaysian accounting standards, MASB executive director Nordin Zain told *The Accountant* the board was established in 1997 with the sole responsibility of issuing standards. "[The MASB] carried on the work that had been done prior to 1997 by professional accounting bodies. In our review of the international standards since 1997, we added more guidance to the standards and additional disclosures to meet the requirements of local laws.



"In essence, our standards were 'higher' in terms of disclosure requirements compared to the IAS. Unfortunately, the world does not appreciate tweaking of the IAS, even if it was for better guidance for preparers or better information disclosure for users. So from January 2006, we decided to remove all of the provisions we had added to be word-for-word identical with the IFRS," Zain said.

Major exceptions

Since 2006, on a per standard basis, Malaysian standards have been identical to IFRS. The difference lies in standards the nation has not adopted. The two major ones are IAS 39 - Financial Instruments: Recognition and Measurement, which will be effective from 1 January 2010, and IAS 41 - Agriculture, which is being reviewed for adoption.

Zain said IAS 41 has attracted a lot of attention in Malaysia: "We are the largest palm oil producer in the world and the world's third largest rubber producer. Certainly the standard has become significant to preparers and users. With that in mind, we have decided to give constituents more time to study the implications of the standard." Zain said the MASB has not decided the date of implementation of the agriculture standard. It may be earlier than 2012; but not later.

"The plantation sector, auditors and directors have to prepare themselves for its eventual implementation," he explained. "They have the expectation that the standard is coming and, therefore, know they have to be ready." When Malaysia made its accounting standards identical to IFRS in January 2006, it also adopted a two-tier

reporting system. Malaysia's 1,000-odd stock exchange-listed companies and about 20,000 subsidiaries, associates and joint-venture companies use the IFRS-based financial reporting standards.

The nation's 700,000 private entities use Private Entity Reporting Standards (PERS), which are the version of IAS issued up until 2003. Following the 2012 announcement, these private entities will continue to use PERS until the MASB decides otherwise.

Zain said the MASB is awaiting the release of IFRS for Private Entities with great interest. If the board decides to adopt the simplified international standards, it will likely drop the PERS.

See: 'Malaysia charts its convergence course' for firms' reaction to the MASB announcement and an adoption time line.

From world accounting intelligence newsletter

ARTICLES

Tax advisor (Part One)

Dr. Wa'el Al-Okshi - Planning and policies manager - Income and Sales Tax Department.

The tax advisor series aims at raising tax awareness for all parties involved in the subject of income tax from all sorts of academic taxation, students from all levels, and researchers in this field. We shall follow a gradual progression when discussing the different subjects; thus, the first part shall be dedicated to define income tax and its characteristics in addition to the taxation hierarchy.

Definition of Income tax

Income tax was defined in most sources as follows (Abu Nassar& others, 2005, page 3-4)

"An amount of money imposed by the state or one of its local governments, that shall be levied from the taxpayer definitely and nothing in return, under a specific law or legislation. This tax aims at contributing in covering the state's various expenditures and achieving certain economic and social goals that the state is seeking to reach".

Following this definition, the characteristics of income tax are as follows:

1. Income tax is imposed and levied in cash.
2. Income tax shall only be imposed under a law or legislation.
3. Income tax is compulsory, not optional.
4. Income tax is levied in a final way, i.e. it is nonrefundable.
5. Income tax contributes in covering the state's general expenditures, without expecting direct benefit to its payer.
6. Income tax is a tool that helps a state in achieving economic and social goals.

The features of income tax in Jordan:

A quick review of the provisions of income tax law will clearly point out the features of income tax in Jordan, which can be specified as follows:

1. Regionalism

This means that this tax is imposed in the place in which income is generated, regardless of the source of that income. The introduction of paragraph (A), article (3) of the law stipulates the following:

"Income accrued or earned in the kingdom of Jordan by any person shall be subject to tax".

Which means that incomes generated in the Kingdom are the only incomes to be subject to income tax. Nevertheless, by referring back to the items (1), (2) of article (3) which points to the regionalism of tax, we find that the tax legislator has made some exceptions to this rule, where he made some incomes subject to tax even though they were earned outside the kingdom. These exceptions are:

- Incomes earned outside the Kingdom by resident or nonresident Jordanians, or incomes earned by non-Jordanian residents, that arise from his funds and deposits inside the Kingdom. Such incomes include (but not restricted to) interests, commissions, returns on



financial investments, profits from trading in currencies, precious metals and securities. Such incomes are subject to a tax in a flat rate, or tax classes, according to the type of activity and the legal Form. (whether the taxpayer is a natural or legal person or a company), based on the provisions of article(16) of this law.

- The income earned by the branches of Jordanian companies operating outside the Kingdom. This income shall be partially subject to tax in HKJ, by (20%) of the net income, after deducting the foreign income tax recognized in its financial statement and authenticated by an external auditor. This income shall be subject to tax with a rate of (35%), regardless of the kind of the activity that these branches exercise outside the Kingdom, be it industrial, trade or services.

2. Annuity

In this field, the tax legislator is complied with the agreed accounting principles, since the annuity principle that segments the project life into fiscal periods, which are set to be (12) months, regardless of the date of the beginning of that period.

Nevertheless, the tax legislator mentioned in the beginning of article (2) of the law the definition of the fiscal year as: "the period that starts on the first day of January and ends on the 31 of December of the same year". Thus we can see how the tax legislator specified the year to be 12 months. The tax legislator points out that the tax accounting shall be made annually as well, as stipulated in paragraph (A) from Article (5), hence the tax shall be imposed on the taxable income earned by any individual or arisen after the end of a fiscal year. In the same manner, the tax legislator reiterated in article (6) of the law, the principle of annuity in tax accounting, and stated clearly the consistency with the accounting principles by setting out the fiscal year for the taxpayer regardless of the date of its beginning, even if it does not meet the definition of the fiscal year in article (2) of the law, where the tax legislator has allowed the taxpayer who usually closes his accounts in a date other than the end of December to do so, and the tax will be imposed on the income subject to it and realized during a whole year that ends in that date, regardless of the month.

But the tax legislator has made an exception to this rule that the tax shall be accounted for annually, and after the end of the year on what the taxpayer has earned, where article (40) stipulated that tax estimation shall

be carried out on any individual intending to leave the Kingdom prominently before the end of the fiscal year, and the tax shall be imposed on the prior period of that year. Such taxes shall be levied within 10 days after sending a written notice.

3. Personality

This feature appears most clearly when the tax legislator took into consideration the financial and social aspects to the taxpayer, since he granted exemptions, especially those stipulated in article (13) and (14) of the law. It stipulates for example to grant the taxpayer (natural person) a personal exemption of (1000) JD, and for each of his parents and each independent child an amount of (500) JD, in addition to the partial exemption on salaries and wages and the like by (50%) for public servers, and (50%) for the first (12000) JD, and (25%) for the amount that exceeds (12000) for the private sector workers.

4. Progression

The feature of progression in imposing taxes is consistent with the procedure of imposing tax in accordance with taxpayers capabilities, and is completely concurrent with article (111) of the Jordanian Constitution that says: "no tax nor duty shall be imposed without a law, and they do not include the sorts of charges that the state receives in return to the services that the government provides to the individuals or in return to their use of the state properties. The government shall apply the principle of progressive taxation when imposing tax, along with realizing social justice and equity, without exceeding the ability of taxpayers and the state's need for money:

By referring to the law and through reviewing the provisions of article (16), it is clear that the tax legislator has imposed tax on companies and legal persons with fixed tax rates according to the kind of activity these companies practise, but as for the natural persons, the tax legislator has adopted the progression principle, yet, this progression has a specific limit, which is (25%) of the taxable income (for the highest income category which exceeds 14000 JD), as from 1/1/2002 of the provisions of the income tax law NO (25) for the year 2001.

5. Unified system

By referring to the provisions of articles (2), (3) and (16) of the law, appears the following:

- Tax shall be levied on the taxable income.
- The taxable income represents what is left from the gross income after performing certain deductions and

exemptions under the provisions of the law. And pursuant to the amendment to the law NO (25) for the year 2001 this definition has been modified to be "the remaining of the gross income or net income or the total of net incomes...", and the definition of the net income clarifies this idea, when the tax legislator defines it as the remaining of the gross income from every taxable source".

- The total income represents the sum of the taxpayer incomes from income sources (the income of taxpayer generated from every taxable income source... pursuant to the amendment under the law No (25) of the year 2001.
- The tax legislator mentioned examples on the taxable incomes in article (3), but he commenced paragraph (1) of the article with the general rule to the taxation as follows: "Income accrued or earned in the kingdom of Jordan by any person shall be subject to tax", thus, he includes all income sources.
- From the abovementioned we can conclude that the tax system applied in Jordan is the unified system which does not differentiate between taxable incomes on the ground of their sources, since all such incomes are subject by effect to a fixed tax rate or unified tax provisions according to the capacity (companies and legal persons or others consecutively) regardless of the nature of these sources.

Taxpayers in the department of Income and Sales Tax:

Taxpayers could be categorized in the following manner, as commonly known in Income and Sales tax:

1. Senior taxpayers: those taxpayers who meet the criteria set by the administration of the Department which can be altered as necessary according to the organizational objectives in the Department, some of these criteria are:
 - The person (including partnerships and simple partnerships), with annual revenues of 3 million JD or more.
 - Special Hospitals.
 - Banks.
 - Insurance companies.

2. Intermediate taxpayers: The main criterion for this category of taxpayers was for the taxpayer to be registered in the network of taxpayers in the sales tax and income tax in the same time, and the revenues are not less than 10,000 JD. This category is further divided to:

- a) Intermediate taxpayers- Industry.
- b) Intermediate taxpayers- Trade.

c) Intermediate taxpayers- Services.

3. Minor taxpayers: this category includes the remaining of taxpayers who do not fall in neither of the above mentioned categories (senior and intermediate), and includes employees and workers whose incomes are limited to their salaries or wages and the like.

Procedural definitions:

Before setting to explain the different legal materials, it is necessary to reiterate the importance of some definitions of key concepts that are necessary to understand and explain the legal materials appropriately, As:

- 1) Person: the natural or legal person.
- 2) Company: all sorts of companies the tax legislator mentioned in the Companies Law, except partnerships and simple partnerships.

Total income: the taxpayer income (the total profit which represents the difference between the revenue and direct cost on that revenue) from every resource subject to tax by the provisions of law, i.e. this does not include tax-free incomes.

Net income: the remaining of the net income or the sum of net incomes after deducting the following (attention on the sequence):

- a) Exemptions.
- b) Loss carried forward from the previous year/years.
- c) Donations (Official bodies- Article 1\12)

Resident: the definition of resident can be clarified as follows:

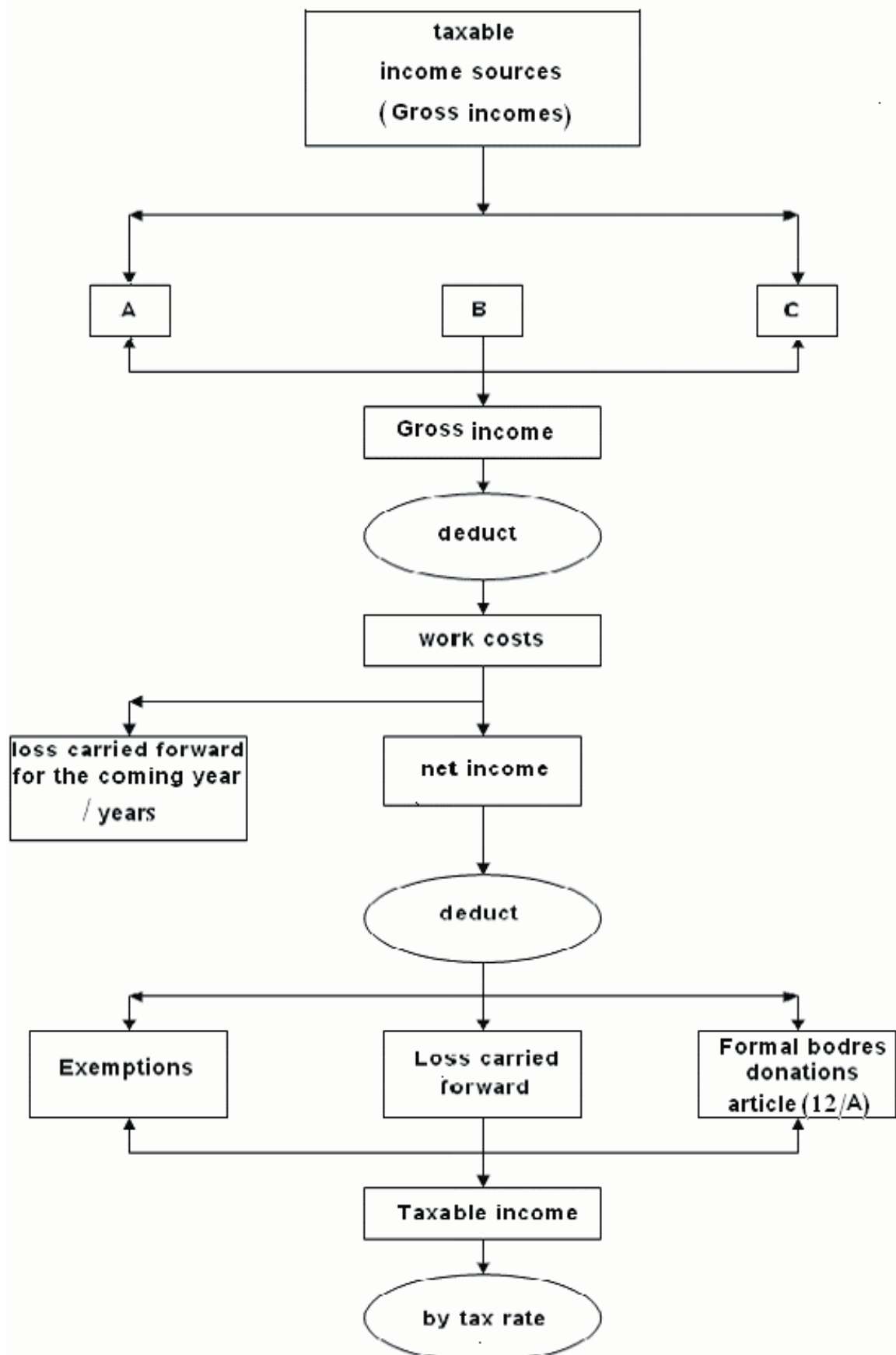
- a) The natural person (Jordanian)
 - A person who stays in the Kingdom for 120 days a year, continuously or intermittently.
 - A worker or an employee who works for the government or any local authority.

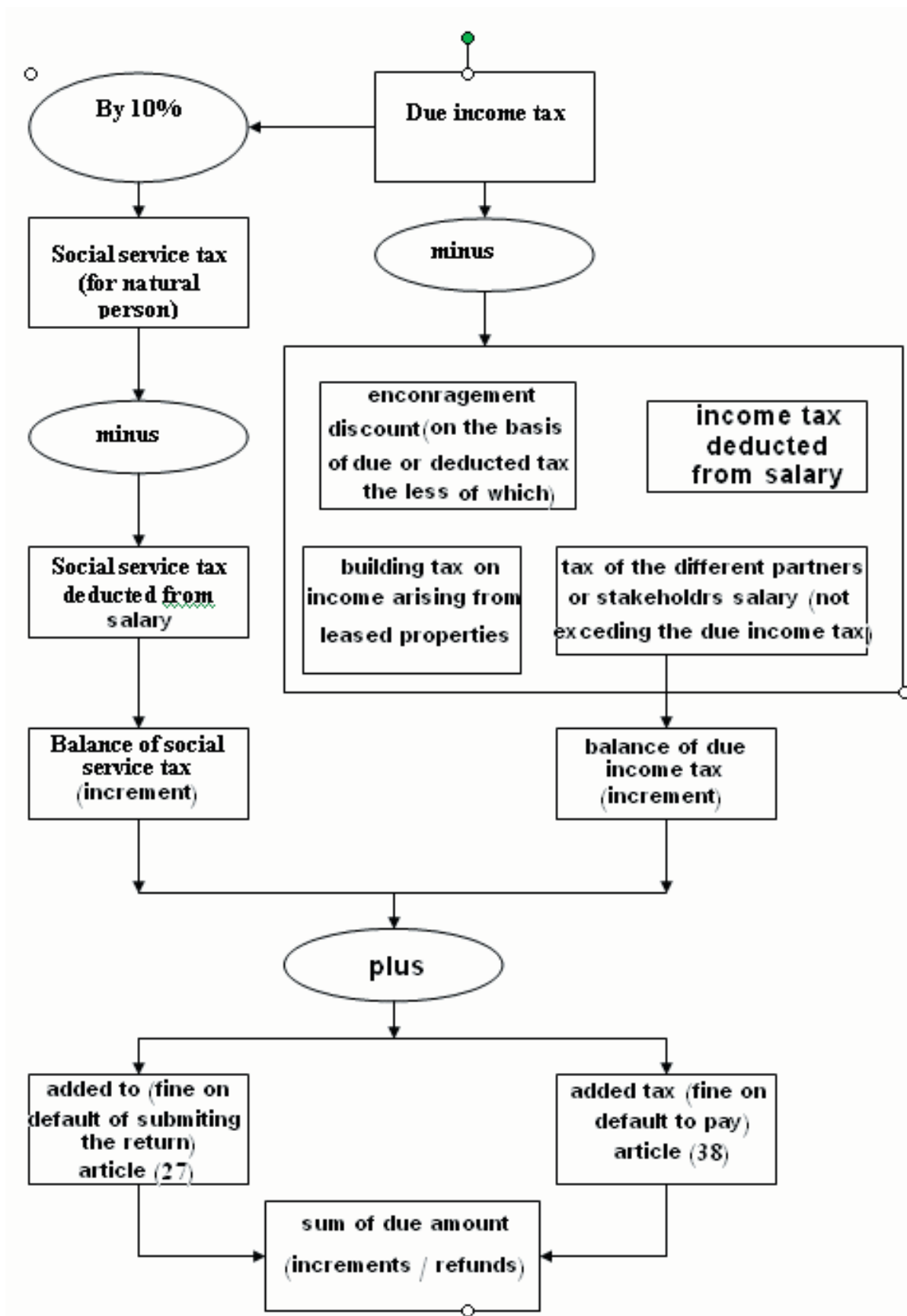
b) The natural person (non-Jordanian):

- A person who stays in the Kingdom for a period not less than 183 days, continuously or intermittently.

c) The legal person:

- Shall be registered in the Kingdom, and have a head office or a branch in the Kingdom that controls and monitors its work.
- Local authorities: municipalities or boards of common services, or any similar body or authority formed under the provisions of law.





Audit Risk Assessment – the Professional Balancing Act

Dr. Esamaddin Khorwatt- Faculty of Accountancy - El-Jabal El-Gharbi University, Libya

Abstract

'Audit risk' has only recently entered the vocabulary of auditing (Millichamp, 1996). The subject of risk assessment is an increasingly important development in the general area of auditing (Dittenhofer, 2001). This paper reviews the developments in the professional and academic literature in terms of inherent and control risk assessment, contrasting the differences between these and drawing together the two strands to provide a composite model. The model incorporates some 60 factors viewed as potentially influencing inherent risk and control risk assessment. Attention is also directed towards the differing classifications between these factors in relation to the level of assessment and the degree of risk associated with the factors. Predictions of Libyan auditors' behavior are drawn from the model and the literature reviewed.

Keywords: audit risk; inherent and control risk assessment; risk-based auditing approach.

1. Introduction

Some professional standards that have established the importance of considering audit risk in planning and executing financial statement audits, assert that inherent risk and control risk may be assessed together or independently.¹ Some of these standards indicate that the auditor's assessment of inherent risk may affect the auditor's understanding of a client's control structure, and consequently, the auditors' assessment of control risk. However, the professional standards have offered little detailed advice to independent auditors regarding the nature of the relationship between inherent risk and control risk. Meanwhile, with the exception of few studies (e.g. Waller, 1993; Shailer et al., 1988; Dirsmith and Haskins, 1995; Helliard et al., 1996 and Dusenbury et al., 2000), there have been no recent empirical studies in terms of inherent risk and control risk assessment, moreover, the few previous studies have arrived at conflicting results.

It should be mentioned at this stage that control and inherent risk are two of the three audit risk components. While the client's inherent risk and control risk are functions of the client's business and exist independently of the audit of financial statements, the auditor's detection risk is a function of the effectiveness of auditing procedures and their application by the auditor. In other words, inherent and control risk are called 'audit risk' because they exist prior to the audit and both are related to the client's business, therefore, auditors have no direct control over those risks. That means the auditor cannot change the actual level of those two risks. All the auditor can do is to assess those risks to determine the nature, time and extent of the substantive procedures.

Detection risk is the only risk under the auditor's control because this risk is a function of the auditor's procedures and the auditor can increase or decrease his /her procedures in order to adjust the level of detection risk. It is worth mentioning that the problem of assessing the audit risk components, as the literature displays, derives from the nature of the relationship between inherent and control risk. In this regard, Helliard et al. (1996) mentioned that there is confusion among academics and practitioners about whether inherent and control risks are related. Haskins and Dirsmith (1995) reported that the auditing standards have offered little detailed guidance to external auditors regarding the nature of relationship between the inherent and control risk concepts. Detection risk, as a function of the auditor's procedures, is under the auditor's control and auditors can adjust this risk based on their assessment of the inherent and control risk. In this vein, Porter et al. (2003, p. 59) stated that "*the risk of auditors failing to detect material misstatement present in financial statements is under their direct control*". They added that inherent and control risks are beyond the direct control of the auditor. As a result, the auditor must adjust detection risk by increasing or reducing the extent of substantive procedures.

¹ See, for example, in the USA: SAS 47 "Audit risk and materiality in conducting an audit", AICPA, 1983; SAS 82 "Consideration of fraud in a financial statement audit", AICPA, 1997; ISA 200 "Objective and general principles governing an audit of financial statements", IFAC, 2003; and in the UK: SAS 300 "Accounting and internal control systems and audit risk assessment", APB, 1995.

The remainder of this paper is organized as follows. It begins by several sections present background information on audit risk and its components along with the audit risk model and risk-based auditing approach. This is followed by three sections present a review of the literature on the assessment of inherent and control risk and develop testable hypotheses to be tested in this paper, while the remaining sections describe the research method, the results and the conclusion.

2. Audit Risk

SAS 300 (APB) defined audit risk as *“the risk that auditors may give an inappropriate audit opinion on financial statements”* (Para 3). The audit risk arises when the auditors give an unqualified opinion when the financial statements are materially misstated. It could also arise when the auditors express a qualified opinion when the financial statements are free of material misstatements but this is very unlikely because before qualifying an opinion in the audit report, the auditor will need a good reason to do so, and this reason needs to be justified to the relevant level of management (Cosserrat, 1999 and Porter et al., 1996).

Despite its increasing importance, relatively little is known about the assessment of audit risk and its components. In this regard, Quadackers et al. (1996) pointed out that little systematic empirical evidence has been published on the assessment of audit risk and its influence on audit work. Chong and Vinten (1996, p.42) stated that *“there is a considerable potential for further research in how audit risk is evaluated in practice”*. Carsberg and Gwilliam (1987) reported that there is extensive scope for further auditing research, into wider questions concerning the role and responsibilities of auditors or into more specific questions such as cost-effective audit techniques. In the same vein, Carpenter et al. (1994, p.363) mentioned that Robert Elliott who is a member of the national office for one firm stated that *“there are abundant research opportunities in the area of audit efficiency. We need breakthroughs, and in my opinion, there is evidence that breakthroughs are possible”*.

3. Audit Risk Components

SAS 300 (APB) issued in the UK in March 1995 established standards and provided guidance on audit risk and its components (inherent risk, control risk, and detection risk). This SAS required auditors to obtain an understanding of the accounting and internal control systems, sufficient to plan the audit and develop an effective audit approach. According to this SAS, the auditors should use their professional judgment to assess the components of audit risk and design audit procedures to ensure it is reduced to an acceptably low level.

3.1 Inherent Risk

Inherent risk has been defined in SAS 300 (APB) as *“the susceptibility of an account balance or class of transactions to material misstatement, either individually or when aggregated with misstatements in other balances or classes, irrespective of related internal controls”* (Para 4). Although the assessment of inherent risk is one of several judgments that auditors have to make in planning an audit engagement, it is the first component to be considered in determining audit risk (Monroe and Ng, 2000). The GAAS established a model for carrying out audits that requires auditors to use their judgment in assessing risks and then in deciding what procedures to carry out. The model allows auditors to take a variety of circumstances into account in selecting an audit approach. For example, the model calls for auditors to have an understanding of the clients’ business and industry, the systems employed to process transactions, the quality of personnel involved in the accounting function, the clients’ policies and procedures related to the preparation of financial statements and much more.

Inherent risk is one of the audit risk components in which the auditor should consider a large number of factors when assessing this risk (see SAS 300, APB). More specifically, assessing inherent risk means assessing the susceptibility of errors or misstatements occurring in account balances or transactions. If

the auditor concludes that there is a high likelihood of misstatements, ignoring internal controls, the auditor would conclude that inherent risk is high. Consequently, auditors need to focus on the factors which are likely to affect the occurrence of errors and misstatements. In order to identify inherent risk, auditors should obtain or update information about various aspects of the audited entity and its business (Defliese et al., 1990).

The auditor assesses the level of inherent by developing knowledge of the entity's business and industry, by reviewing the audit workpapers of prior years and by performing analytical procedures (Abrema, 2002). To document inherent risk assessment, the auditor can choose among alternatives. One alternative is to document only identified, critical inherent risks that must be addressed by procedures that are different in their nature, timing and extent from those that would otherwise be employed in the absence of those risks. Assessments of other possible inherent risks are not explicitly made, and by implication, procedures that are weaker in terms of their nature, timing and extent may then be considered for other accounts and balances. The auditor can also create a checklist of possible inherent risk considerations and explicitly rank each item in the list according to whether he/she perceives the inherent risk as high or low (Graham, 1985b).

3.2 Control Risk

SAS 300 (APB) defined control risk as *"the risk that a misstatement that could occur in an account balance or class of transactions and that could be material, either individually or when aggregated with misstatements in other balances or classes, would not be prevented, or detected and corrected on a timely basis, by the accounting and internal control systems"* (Para 5). Dunn (1996) mentioned that whereas the valuation of inherent risk as a formal part of the collection of evidence is a relatively recent phenomenon, auditors have been relying on internal controls to prevent or detect material misstatements for many years.

Control risk is a function of the effectiveness of the entity's internal control system. More specifically, in an audit of the financial statements, auditors obtain an understanding of internal control to assess control risk. For example, a high assessment for control risk indicates that the client's controls are not properly designed or not operating effectively (SAS 55, AICPA). The extent of testing the controls varies depending on the assessed control risk. For, example, when control risk is assessed at a low level, the auditor designs and performs a combination of tests of controls and substantive procedures. On the other hand, when control risk is assessed at a high level, the auditor performs only substantive procedures (Arens et al., 2002). In fact, the entity's management, not the auditor, must establish and maintain the internal control system. This is because the management, not the auditor, is responsible for the preparation of financial statements in accordance with the GAAP. Graham (1985b, p.36) stated that *"companies commonly establish a system of internal control over certain accounting functions to protect against the output of unreliable financial information or over the physical security of assets to protect against loss"*.

The auditor's documentation of the assessed level of control risk depends on whether control risk is assessed at the maximum or below the maximum level. When the control risk is assessed at the maximum level, the auditor needs only to document that it is at the maximum, but when the control risk is assessed below the maximum level, the auditor should document the tests undertaken of control systems and their results (Carmichael et al., 1996; SAS 300, APB and AUS 402).

3.3 Detection Risk

Detection risk has been divided in the professional standards into the two components of analytical review and test of details. SAS 300 (APB) defines detection risk as *"the risk that the auditors' substantive procedures (tests of details of transactions and balances or analytical procedures) do not detect a misstatement that exists in an account balance or class of transactions that could be material, either individually or when aggregated with misstatements in other balances or classes"* (Para 6). In



other words, detection risk is the risk that a material misstatement in the unaudited information will not be detected by the auditor. It is referred to as an achievable level as it is a risk that the auditor believes can be achieved, not an actual risk or a risk that has been achieved.

Porter et al. (1996) show that detection risk derives from sampling risk and quality control risk (non sampling risk). Sampling risk is the risk that the auditor may fail to detect material misstatements, which are present in the financial statements because not all the available evidence is examined, and a particular transaction or account balance which is materially misstated is not included in the examined samples during the audit. Sampling risk refers also to the risk that the sample selected is not representative of the population from which it is drawn. Non sampling risk occurs when the auditor fails to detect material misstatement which is present in the financial statements because sufficient appropriate audit evidence is not collected and / or not evaluated properly.

The auditor manages detection risk by first assessing inherent and control risk. In more detail, after the assessment of the risk or error occurring through inherent risk identification and the evaluation of relevant internal controls (control risk), auditors set the nature, timing and extent of the substantive procedures to accomplish that low risk objective. By varying the nature, timing and extent of audit procedures, auditors can control the detection risk.

4. Audit Risk Model

Hayes et al. (1999, p.179) define the audit risk model as “a formal model reflecting the relationship between audit risk (AR), inherent risk (IR), control risk (CR) and detection risk (DR)”. Since its adoption by the AICPA in the 1980s (SAS 39 “Audit Sampling” and SAS 47 “Audit Risk and Materiality in Conducting an Audit”), the audit risk model has been warmly received in the auditing literature (Shailer et al., 1998). The model serves as a major conceptual framework for the audit process (Cushing et al., 1995). The audit risk model is the conceptual model that underlies the risk-based audit approach. Dusenbury et al. (2000) reported that the audit risk model operationalizes a risk-based approach to determining the extent of testing necessary for an audit to be effective.

SAS 39 described risk at the account balance level with the focus on just control risk and detection risk. The Auditing Standards Board (ASB) of the AICPA provided further guidance in SAS 47, which described audit risk as a function of inherent risk, control risk and detection risk. The primary difference between the model in SAS 39 and SAS 47 is that the former omitted the term for inherent risk since the risk was set conservatively at one, and divided detection risk into the two components of analytical review and test of details. SAS 47 provides this formula to calculate the detection risk: AR (audit risk) = IR (inherent risk) X CR (control risk) X DR (detection risk).

In fact, both theoretical and empirical research relating to the audit risk criticized the audit risk model because it assumes that the risk components are independent of each other (see e.g. Dusenbury et al., 2000; Messier et al., 2000; Peters, 1990; Cushing and Leobbecke, 1983; Hayes et al., 1999; Waller, 1993 and Yardley, 1989). For example, in his study regarding inherent and control risk assessment, Waller (1993) criticized the audit risk model indicating that the model assumes that for a misstatement to exist in the audited financial statements a misstatement must occur (inherent risk), controls do not detect it (control risk) and it is not detected by auditors (detection risk). Waller (1993) indicated that the problem with this sequence is its failure to include the preventive effect of controls. However, the definition of control risk includes the prevention of misstatements. Thus, prevention of misstatements by controls (control risk) should precede the occurrence of a misstatement.

In their critique of the audit risk model, Cushing and Leobbecke (1983) suggest that instead of a joint probability model that assumes independence of the component risks, a more reasonable approach might be a conditional probability model. They also criticized the model for not providing any guidance for aggregating the assessments made at the component level to the risk for the financial statements as a whole (that is, the problem of forming an overall opinion on achieved audit risk when the risk model must

be applied to the account balance level). Daniel (1988) shows that auditors are not following a literal interpretation of the audit risk models outlined in SAS 39 and SAS 47 when assessing audit risk. More recently, Messier et al. (2000, p.130) stated “*It may be that the audit profession should revisit SAS No.47 and revise the audit risk model in terms of the existing research and the changes occurring in the profession*”. Dusenbury et al. (2000, p.115) state that “*SAS No .47 (AICPA, 1984) is quite complex and seemingly contradictory. Therefore, studying what auditors actually do is important*”.

5. Risk-Based Approach

Risk-based auditing can be defined as “*identifying the risk of material misstatement in areas of the financial statement and subsequently determining the most efficient and appropriate effort to be applied to each area*” (Florida CPA Netlink, 2002, p.1). This approach has recently been reported as one of the top trends in external auditing (ibid).

The starting point for the risk-based approach is to determine the overall level of risk which the auditor is prepared to accept when expressing his/her opinion on the financial statements (Dunn, 1996). Risk-based audit approach is designed to avoid over-auditing in the low risk areas, and under-auditing in the high risk areas (Woolf, 1994). Following a risk-based approach requires the auditor to assess the risks that are likely to lead to material misstatements and then conduct audit procedures based on those assessments to determine if misstatements have occurred. Thus the accuracy of the auditor’s risk assessments can directly affect the effectiveness and efficiency of an audit.

Manson (1997, p.234) indicated that this approach has emerged in the 1990s. He added that “*It is generally considered that the risk-based approach is both an effective and efficient way of conducting an audit*”. Turley and Cooper (1991, p.16) stated that “*risk-based approaches have particular attractions because of the corollary between risk and assurance*”. To achieve the objective of the risk-based auditing approach, the auditor needs to identify areas where there is a high risk of material misstatements (those areas that will require the application of more extensive procedures) then the auditor should determine how to reduce the procedures applied to the areas identified as low-risk.

The importance of the risk-based auditing approach derives from the significant relationship between the assessed level of inherent risk and control risk and the extent of efficiency and effectiveness of the audit. More precisely, to allocate the audit resources wisely, the auditor should be able to determine the accounts that are associated with a relatively higher degree of risk. Accordingly, auditors can increase the resources allocated to a high audit risk area by selecting more costly, time consuming procedures, adding procedures, increasing the hours allotted to each procedure, increasing the sample size, assigning more experienced team members, or adding more personnel. Thus, any overestimation of the levels of inherent and control risk would lead to conducting more audit work than necessary and then the scarce audit resources will be consumed unnecessarily (Inefficient audit). On the other hand, any underestimation of the levels of inherent and control risk will result in restricting the effectiveness of the audit. Moreover, in this case the auditor may find him/her self a subject of litigation brought by those who rely on the audited financial statements information in making their business decisions.

6. Testable hypotheses

6.1 The Dependencies between Inherent and Control Risk

The AICPA’s audit risk model was employed as the primary conceptual framework for the present evaluation of the audit process. This model posits that the three audit risk components (inherent, control and detection risk) are independent of each other and may be assessed separately. Waller, 1993 and Shailer et al., 1998 have supported the suggestion of this model that inherent and control risks are assessed separately. Other research studies (e.g. Dusenbury et al., 2000; Messier et al., 2000; Dirsmith and Haskins, 1991; Haskins and Dirsmith, 1995 and Helliar et al., 1996) provide empirical evidence supporting the view of the practitioners that the audit risk model cannot be utilized in actual practice suggesting then that inherent risk and control risk assessment have to be made jointly. This conflict has



prompted research into the implications of assessing audit risk components independently or interdependently.

Carmichael et al. (1996) argued that some auditors believe that the assessment of control risk is inevitably a joint assessment of inherent risk and control risk. Other auditors maintain that a separate assessment is feasible as long as matters that can affect both inherent risk and control risk, such as management's control consciousness, are not double counted. Hayes et al. (1999) reported that the auditor may make separate or combined assessments of inherent and control risk. Nevertheless, Graham (1985c) suggests that inherent and control risks can be distinguished conceptually, and inherent risk is often first considered separately in the planning stage of the audit.

On the contrary, Cosserrat (1999) and Manson (1997) claim that there is often an interrelationship between inherent risk and the control environment factors. For example, some of the factors which affect inherent risk, such as management's integrity and personnel policies and practices, may also affect the control environment and hence influence control risk. In their comments on inherent and control risk assessment, Spicer and Oppenheim et al. (1990, pp.112-113) supported the claim that inherent and control risk are often interrelated when they stated that "*the two elements of risk are so closely interrelated that it is often difficult to decide whether particular factors contribute to one element or the other. The auditor may therefore well choose to consider them together and make combined assessment of inherent and control risk*". In the same vein, Messier et al. (2000) and Haskins and Dirsmith (1995) argue that the current auditing standards include some inherent risk factors that can be used in assessing the control environment. According to Helliar et al. (1996) and Shailer et al. (1998), the lack of differentiation between some inherent and control risk factors support the suggestion that inherent and control risk are assessed interdependently. The suggestion in the relevant literature is that the overlap between inherent risk and control risk factors provides an explanation for the suggestion in the academic literature that inherent risk and control risk are assessed together (e.g. Waller, 1993; Messier et al., 2000 and Helliar et al., 1996).

Commenting on the interrelationship between inherent risk and control risk, Graham (1985c) states that when auditors draw conclusions from testing controls, they may not be able to draw separate conclusions about inherent risk and control risk as might be implied from the professional standards' definition (SAS 47, AICPA). This is because auditors may not be able to decide whether the effectiveness of the control system (low control risk) or the lack of errors entering the system (low inherent risk) contributed to the effective processing of transactions.

Professionally, SAS 300 (APB) in the UK recognizes and discusses as separate audit risk components, inherent risk, control risk and detection risk. However, the same SAS suggests that, where auditors believe there is a strong interrelationship between inherent and control risk, it may be more appropriate to make a combined assessment. More recently, the International Standards on Auditing (ISA 200) "Objective and Principles Governing an Audit of Financial Statements, October, 2003" considered the issue of the interdependence between inherent and control risks. This ISA does not refer to inherent risk and control risk separately, but rather to a combined assessment of the "risk of material misstatement." However, despite this the SAS described a combined assessment of inherent and control risk, leaving the opportunity for the auditor to make either separate or joint assessment. It stated that auditors may make combined or separate assessments of inherent and control risk depending on preferred audit methodologies or practical consideration. On this basis, if the auditor assesses inherent risk and control risk separately (as the audit risk model suggests) he/she has to be able to distinguish between the factors associated with inherent risk and those that are associated with control risk. Accordingly the first hypothesis of this research addresses the nature of assessing inherent risk and control risk and predicts the following behavior:

H1: Libyan external auditors are not able to differentiate between inherent and control risks because some of the factors involved in the assessment of each of the two components have pervasive effects*.

6.2 Level of Assessing Audit Risk Factors

Professional standards (e.g. SAS 300, APB; ISA 400, IFAC) show that misstatements occurring in the financial statements need to be considered at two levels, which are the financial statements level and account balance or class of transactions level. More specifically, ISA 400 (IFAC) states that in developing the overall audit plan, the auditor should assess the audit risk at the financial statement level. In developing the audit programmer, the auditor should relate such assessment to material account balances and classes of transactions. Relevant professional literature (e.g. SAS 300, APB; ISA 400, IFAC; SAS 47, AICPA) along with academic literature (e.g. Porter et al., 2003; Spicer and Oppenheim et al., 1990, Messier et al., 2000 and Manson, 1997) show that the risk factors are assessed at the financial statements level and at the account balance or class of transactions level. SAS 300 (APB) suggests the following examples of factors affecting inherent risk at an entity level: integrity of directors and management; management experience; unusual pressures on management; nature of the business and conditions within the industry. The same SAS suggests the following examples of factors affecting inherent risk at the account balance and class of transactions level: susceptibility to misstatement; complexity; degree of judgment involved; susceptibility of assets to loss or misappropriation; quality of specific accounting systems; unusual or complex transactions at or near the year end and transactions not subjected to ordinary processing[♦].

Turley and Cooper (1991, p.59) stated that “...risk can and should be assessed for both the complete audit and individual areas of audit work; for the audit as a whole, risk can be used as a diagnostic tool in planning, in order to ensure that attention is given to those areas of the financial statements with greatest potential for material errors. This planning role goes beyond the simple classification of an audit as high-risk or low-risk, and should involve an attempt to specify the reasons for a particular classification and their implications for financial statements quantities”. They added that at the level of individual areas, risk is commonly associated with the components of audit risk. In general planning, the auditor considers audit risk from the perspective of whether this particular audit involves a higher than ordinary level of risk of material misstatements of the financial statements. Audit risk is considered in general planning because it may specifically affect decisions made at this time, such as the required audit team, and other aspects of the preliminary audit plan. For example, the perception of a higher audit risk may need the assignment of more experienced staff, to increase the extent of supervision and to adopt a higher degree of professional skepticism (Carmichael et al., 1996). The International Standards on Auditing (ISA 200) “Objective and Principles Governing an Audit of Financial Statements, October, 2003” stated that the auditor’s consideration of the risk of material misstatement at the financial statements level includes consideration of the knowledge and the ability of personnel assigned significant engagement responsibilities, including whether to engage experts and high level of supervision.

The risk at the financial statements level refers to assessing the risk of material misstatement, which is present in the financial statements as a whole and based on this determining the total amount of effort required for the audit as a whole. In other words, the risk at the financial statements level refers to the likelihood of material misstatements affecting the overall audit (The higher likelihood of material

* Due to the effect of some pervasive risk factors on auditors’ inherent and control risk assessments, the predominant views of the academic literature suggest that inherent and control risks are assessed interdependently. In contrast, the professional standards advocate the separate assessment of the audit risk components. In this regard, as the concept of inherent risk is still seen as a new phenomenon even in the developed countries, therefore, the researcher expects that Libyan auditors may not be able to identify the risk factors associated with this risk component.

♦ Those factors, along with others that are shown in the academic and professional literature (e.g. Helliard et al., 1996; Haskins and Dirsmith, 1995; Dirsmith and Haskins, 1991; AUS 402 and SAS 47, AICPA) as factors affecting inherent and control risk assessment have been adopted in this study.



misstatement being present, the greater the amount of audit work required). Assessment of audit risk at the financial statement level guides the auditor in maintaining an appropriate level of professional skepticism, in determining staffing requirements and in planning the nature, scope and timing of the audit procedures (Spicer and Oppenheim et al., 1990). In the same vein, the International Standard on Auditing (ISA 330) “ The Auditor’s Procedure in Response to Assessed Risks” issued by The International Federation of Accountants in October, 2003 stated that “*the auditor should determine overall responses to address the risks of material misstatements at the financial statement level, such responses may include emphasizing to the audit team the need to maintain professional skepticism in gathering and evaluating audit evidence, assigning more experienced staff or those with special skills or using experts, providing more supervision, or incorporating additional elements of unpredictability in the selection of further audit procedures to be performed*” (Para 4).

Audit risk is also considered at the individual account or class of transactions level. Risk at the account balance or class of transactions level refers to identifying the high audit risk area, that is, identifying specific accounts or class of transactions where material misstatements are most likely to occur. The auditor assesses the level of inherent risk and control risk, and adjusts detection risk accordingly, to restrict the audit risk for the account balance to a relatively low level. In this vein, SAS 47 (AICPA) indicates that at the account balance or class of transactions level, audit risk consists of inherent, control risk and detection risks. The auditor should seek to restrict audit risk at the individual balance or class level in such a way that will enable him, at the completion of his examination, to express an opinion on the financial statements taken as a whole at an appropriately low level of audit risk. Spicer and Oppenheim et al. (1990) supported what has materialized in SAS 47 (AICPA) when they pointed out that at the level of account balance or class of transactions, audit risk consists of inherent, control and detection risks.

Professional standards (AICPA, 1997) indicated that auditors may plan to perform additional analytical procedures in a specific audit area or transaction cycle (at the account balance or class of transactions level) where he/she believes risk to be high. Alternatively, in response to high pervasive risk (at the financial statements level), the auditor may plan a more global response, such as the assignment of more specialized personnel in the audit engagement. However, recognition of the level at which the audit risk is assessed is affected by the nature of the audit risk components. The auditing literature (e.g. Arens et al., 2002; Cosserat, 1999 and SAS 47, AICPA) shows that both inherent and control risk are set for each account (account balance level), not for the overall audit (financial statements level). If auditors are not aware of the differences between the audit risk components (inherent, control and detection risks), they may not differentiate between the levels of audit risk assessment. In other words, if they cannot divorce inherent risk factors from control risk factors, that means they may not be able to connect these factors to the appropriate level of assessment (Financial statement or Account balance).

Monroe and Ng (2000) reported that auditors have to identify and evaluate relevant inherent risk factors and decide what level is affected by those factors (financial statements level or account balances level). Therefore, if auditors, for example, could not identify inherent risk factors, they will not be able to specify the appropriate level associated with the relevant factors. Similarly, auditing literature indicates that at the financial statements level, auditors are required to consider inherent risk factors affecting the nature of the entity’s business and the industry in which the entity operates. Messier et al. (2000) reported that as some inherent risk factors related to the financial statements level are pervasive to the internal controls, auditors may not differentiate between those levels of assessments in practice. Hence, as there was an expectation that Libyan auditors will not be able to classify the risks to inherent and control (the first hypothesis), so the second type of predicted behavior is that they may fail to link the factors to the appropriate level of assessment, as at the account balance level, the risk separates into the three components (inherent, control and detection risks). Accordingly, the second hypothesis of this research addresses the levels at which the risk factors are assessed and predicts the following behavior:

H2: Libyan external auditors are not able to differentiate between the risk factors at the financial statements' level and those at the account balances and class of transactions levels because audit risk in the account balances level comprises inherent, control and detection risk and no assessment of those components is made at the financial statements level ⁴.

6.3 Auditor's Professional Judgment Concerning Inherent and Control Risk Factors

Professional standards indicate that assessing inherent and control risk is a matter of professional judgment (SAS 47, AICPA and SAS 3000, APB). More specifically, the assessment of the inherent risk factors, which may be interrelated, is left to the professional judgment of auditors (Sherer and Turley, 1997). In other words, to assess inherent risk, auditors should use their professional judgment to consider and evaluate numerous factors affecting inherent risk. For example, if the auditor found that the results of previous audits show that pricing inventory is a subject of material misstatements, inherent risk as a consequence may be set at a high level for inventory. From the other side, assessing control risk is the process of evaluating the effectiveness of the design and operation of the internal control of the entity in preventing or detecting material misstatements in the financial statements. In other words, the assessment of control risk is based on the auditor's judgment as to the effectiveness of the internal controls. Thus, when auditors decide not to rely on internal controls no assessment is necessary and control risk is, as a consequence, assumed to be high. In contrast, when auditors obtain evidence from their test of controls which indicates that controls are operating satisfactorily control risk is as a result assumed to be low.

Millichamp (1996) mentioned that the majority of audits contain at least one area of high risk. He provided some indications of higher than normal audit risk such as: previous experience, high gearing, liquidity problems, poor management, lack of controls, dominance by a single person, rapid staff turnover and change of accounting procedures or policy. Millichamp (1996) suggests also some indications where audit risk may be low such as: management and staff are competent and have integrity; past experience indicates risk is not high; the accounting system is well designed, works and is subject to a strong control system; the client is old establish and is not subject to rapid change; and the existence of an internal audit committee.

Professional standards (SAS 47, AICPA) show that combining the assessment of inherent and control risk to establish the acceptable level of detection risk can be accomplished by either qualitative or quantitative analysis. In the same respect, Porter et al. (2003) indicate that auditors may assess both inherent and control risk at a high level or at a low level. In other occasions, they may assess one of them at a high level and the other at a low level; but whatever the combined level of risk, this determines the scope of the substantive procedures. Turley and Cooper (1991) studied the audit methodology of twenty of the UK audit firms. They reported that fifteen of those firms included some explicit consideration of applying audit risk in their auditing practices. Ten of the fifteen firms consider the audit risk model as described in the SAS 47 (AICPA). However, Turley and Cooper (1991) mentioned that interestingly, most of those firms appear to prefer a judgment approach to risk assessment and that they utilize descriptive (qualitative) terms rather than numerical ones in dealing with the audit risk components. On the other hand, Helliar et al. (1996) argue that the allocation of scarce audit resources is largely dependent on the levels of inherent risk and control risk for a particular audit engagement. If the auditor overestimates these levels, more audit work than necessary will be undertaken and the audit resources will be wastefully consumed. Alternatively, if the auditor underestimates the levels of these risks this can lead to ineffective audits with repercussions which may be particularly serious in today's litigious environment.

⁴ Some auditing standards (e.g. SAS 300, APB and ISA 400, IFAC) support the distinction between risk factors at the financial statement level and at the account balance or class of transactions level. However, the absence of particular professional auditing standards in Libya (the Libyan Accountants and Auditors Association has not yet issued any auditing standards that should be followed by the Libyan auditors as a guidance of their auditing work) along with the lack of professional training may make Libyan auditors unable to distinguish between the different levels of audit risk assessment.



The auditing literature shows that, since auditors are concerned about being exposed to litigation as a result of providing reports not reflecting the real picture of the financial position of the audited entity, they tend to collect more evidence than may be justified, relying primarily on conducting substantive testing (test of details). For that reason, auditors who are aware that additional work (more evidence gathering) will lead to a decrease in the likelihood of expressing an incorrect audit opinion, may choose to undertake more work than the required minimum to decrease the possibility of injury or loss to his professional practice (Carmichael et al., 1996). In other words, for self-protection, the auditor may do more investigation. Arens et al. (2002) and Hanno and Kida, (1995) reported that auditors are generally conservative in making risk assessments and they give more weight to those factors at a high risk level considering low risk factors as high risk factors. Accordingly, the third hypothesis of this research addresses the evaluation of the degree of risk associated with the risk factors and predicts the following behavior:

H3: Libyan external auditors do not differentiate between the factors associated with a high level of risk and those associated with a low level of risk because they prefer to rely on heavily substantive testing as a means of minimizing their exposure rather than to assess systematically the risks involved and to modify their procedures accordingly*.

7. Research Method

In order to gather empirical evidence on inherent and control risk assessment, in the light of the appropriate literature on inherent and control risk assessment, factors which are associated with inherent and control risk were identified and adopted and the questionnaire was developed similar in its design to that used by Helliari et al. (1996) and Haskins and Dirsmith (1995).

The questionnaire aimed to contain a more comprehensive range of factors than have been included in previous research. It contains 60 factors that are shown in the academic literature, professional standards, textbooks and prior studies affecting the assessment of inherent and control risk (49 factors were associated with inherent risk and 11 were associated with control risk). Some of these factors are relevant to financial statements level, and the others to account balances and class of transactions level. Some of these factors are associated with a high risk level, and the others with a low risk level.

The questionnaire comprised three categories of response: differentiation between inherent and control risks, the level at which these risks are most evident (e.g. class of transaction or account balance), and whether the risks encountered are typically low or high. These factors and their sources were derived from an extensive review of the professional and academic literature relating to the assessment of audit risk components. Similar sources (e.g. SAS 300, APB and ISA 400, IFAC) were employed to determine which risk factors are normally expected to affect the financial statements level, and accounts balance or class of transactions level. Differentiation between high and low risk factors was based on a combination of prior studies (e.g. Helliari et al., 1996; Wright and Wright, 1996 and Kreutzfeldt and Wallance, 1990). The use of the bipolar response scale (i.e. high or low risk) arguably constrains the range of responses, and although respondents had the opportunity to select both, very few chose this option. The respondents were required to respond to each of the 60 factors in terms of whether in their opinion the factor:

1. Would normally be viewed as a source of inherent risk or control risk. Respondents were given the option to classify an individual factor as both inherent risk or control risk, or indeed neither inherent risk nor control risk. The factors were presented in a randomly ordered list to the respondents, a step designed to improve the reliability of the responses by avoiding purely random patterns of choice.

* In a high uncertainty avoidance culture like Libyan (see Hofstede's 1980 and 1984), auditors may tend to be conservative and prefer to collect as much evidence as possible to support their report and then avoid facing any kind of prosecution brought by those who may suffer loss or damage if the auditor's opinion on the financial statements does not reflect the real financial position of the entity. In such cases, auditors may not limit their substantive tests even in the cases when the risk is believed to be low.



2. Would normally be considered as affecting the risk at either the financial statements level or alternatively the account balances or the class of transactions level.
3. Would normally be associated with a high or low level of risk. Responses were also sought in relation to three common audit areas, inventory, accounts receivable and accounts payable. Prior empirical studies have shown that these three accounts are more susceptible to misstatements (e.g. Wright and Wright, 1996; Kreutzfeldt and Wallance, 1990) and were thought to be exposed to a high level of inherent risk (e.g. Helliari et al., 1996; Lin et al., 2003). Descriptive information concerning the respondents was also recorded to aid classification and subsequent analysis of the responses. As part of the questionnaire, respondents were provided with the definition of audit risk and its components together with an explanation that the factors at the financial statements level have a general effect on the likelihood of errors occurring in the system and relate to the overall audit strategy; whereas the factors at the account balances or class of transactions levels have a direct effect on specific accounts and class of transactions and relate to the more detailed planning of the audit. A combination of mailed and personally delivered questionnaire distribution was undertaken.

8. Statistical analysis

The primary approach to analyzing the questionnaire data employed Signal Detection Theory¹. This theory is applicable in situations where the respondent is required to distinguish between two discrete states of the world (signal and noise). In such situations, a respondent is faced with the task of identifying one of the states. Therefore, the respondent must make a decision, is the signal there or not. What makes this situation confusing and difficult is the presence of other distraction that is similar to the signal, these distractions are called noise. Because noise can sometimes look like a signal (or vice versa), the responses of the participant fall into four categories (see table 1).

Table 1 The four outcomes of signal detection theory		
Responses	Actual status	
	Signal	Noise
Yes	Hit	False alarm
No	Miss	Correct rejection

Source: Wickens C (1992) Engineering Psychology and Human Performance. Harper Collins Publisher Inc., New York, NY.

In the present study, we sought to measure the degree of differentiation between:

1. Factors associated with inherent and control risk;
2. Risks associated with the financial statements level as against the account balance or class of transactions level; and
3. Factors generating high and low risk levels.

¹ Signal detection theory identifies four possible responses to each question:

1. Positive response when signal present – **a hit**, e.g. 'correct' identification of risk factor as inherent risk. The term 'correct' is premised on the prior determination of the risk category provided by the professional and academic literature.
2. Negative response when signal present – **a miss**, e.g. 'incorrect' identification of risk factor as control risk when it is an inherent risk factor.
3. Positive response when signal not present – **a false alarm**, e.g. 'incorrect' identification of risk factor as inherent risk when it is a control risk factor.
4. Negative response when signal not present – **a correct rejection**, e.g. 'correct' identification of risk factor as control risk when it is not an inherent risk factor.

The responses of each respondent to the three sets of questions were analysed on this basis calculating the d-prime (d')².

Table 2 illustrates the application of signal detection theory on the isolation of inherent risk factors from control risk factors.

Table 2 The four outcomes of signal detection theory- the application on identifying inherent risk factors		
Responses	Actual status	
	<i>Inherent risk factors</i>	<i>Control risk factors</i>
<i>Yes</i>	Hit	False alarm
<i>No</i>	Miss	Correct rejection

For the calculation of d-prime, tables of Z-scores distribution are used to determine the values. A high value of d-prime shows a high degree of separation and, thus, high respondent sensitivity (i.e. $d' < 1.0$ sensitivity of the respondents is low; $d' > 1.0 < 1.5$ sensitivity of the respondent is moderate; and $d' > 1.5$ suggests high levels of sensitivity, Wickens, 1992). Hence, in the current study, high values in d-prime indicate high sensitivity in differentiating inherent risk factors from control risk factors; factors affecting financial statements level from factors affecting account balance and class of transactions level; and factors generating a high level of risk from factors generating a low risk level. In order to enhance the result of applying the signal detection theory, contingency tables (2 x 2) are utilized to examine the independence between: a) inherent and control risk factors. (b) the factors affecting financial statements level and account balance or class of transactions level and (c) the risk factors that are associated with a high or a low level of risk. Chi-square is calculated to assess the statistical significance of association between the mentioned factors in the contingency tables.

9. Results

Out of 400 questionnaires were distributed among the Libyan auditors who are registered with the Libyan Accountants and Auditors Association, 164 representing 41% were analyzable.. Profiling the membership of the Libyan Accountants and Auditors Association based on the sample suggests a relatively high degree of homogeneity. Eighty one percent of auditors are sole practitioners or partners in small partnerships. The remainder is employed either by these partnerships or the small number of larger firms. The responses indicated that the auditing profession in Libya is still highly dominated by males. The age profile suggests that almost 80% are in the age range over 40 with a mean age of 54 for the population. Not surprisingly, the majority of the auditors have been practicing professionally for more than 6 years, with a mean value of 23 years experience. In relation to educational qualifications, all auditors have at least a Bachelor degree in Accounting, a requirement of membership, and 42% also hold a postgraduate qualification, with more than half undertaking their education in the USA or the UK.

The results of the data analysis relating to the assessment of inherent and control risk factors were largely consistent with the first hypothesis developed in this study lending support to the suggestion in the academic auditing literature that inherent risk and control risk factors may be interdependent. Most Libyan auditors thought most inherent risk factors were control risk factors. More specifically, out of the 49 inherent risk factors, 35 were classified as control risk by 70% or more of the auditors, and 41 factors by

² d-prime is an index of performance. It is a measure of how strongly the participant treats a signal. In other words, it measures the degree of separation between the signals and the noises. The greater separation between signal and noise increases d-prime. This value is demoted as d' . The values of d-prime (d') were calculated for the responses of each participant regarding the three hypotheses. More specifically, the values of d-prime were calculated for the responses relating to: a) identifying inherent and control risk factors, (b) recognizing the risk factors affecting financial statements level and account balance or class of transactions level and (c) perceiving the risk factors associated with a high and a low level of risk.



67% or more. Factors relating to the nature of the entity's business, experience of management, history of errors, management integrity and pressure on management to report certain financial results that affect the assessment of inherent risk were all considered control risk factors by the majority of auditors. Of the inherent risk factors, only 2 of the 49 factors were classified as inherent risk by 61% or more of the auditors, and 4 factors by 50% or more. The results from contingency tables and calculated Chi-square value indicate that there is a significant relationship between inherent and control risk factors.

It should be mentioned at this stage that despite the results showing consistency with the academic literature with regard to the assessment of inherent risk and control risk together, both Helliari et al. (1996) and Shailer et al. (1998) concluded that the auditors thought some control risk factors were inherent risk factors. For example, in the study of Helliari et al. (1996) the factors identified in the literature as inherent risk were perceived in a similar fashion by most UK auditors. However, in the same study, the UK auditors thought control risk factors were inherent risk factors and that five out of six control risk factors were classified by the majority of the auditors as being associated with inherent risk. In contrast, the Libyan auditors considered most inherent risk factors to be control risk, but most of them could identify the eleven control risk factors. This could signify that the Libyan auditors rely mostly on control risk in their assessment of the audit risk.

Other empirical evidence in this study revealed that the Libyan auditors were able to identify the risk factors affecting the financial statements level and account balances or class of transactions level. In this regard, Out of the 60 factors, 36% of the total participants could identify more than 50 factors and 97 participants (59.1%) could recognize between 49 and 40 factors which means that more than 95% of the participants could correctly identify at least 67% of the total factors indicating that the Libyan auditors could isolate the risk factors affecting financial statements level from those affecting account balance and class of transactions.

The results of the data analysis relating to the level of risk factors assessment gave support to the suggestion in the professional and academic auditing literature (e.g. SAS 300, APB; ISA 400, IFAC; AUS, AARF and Hayes et al., 1999) that the auditor should consider the risk factors at the level of financial statement and at the level of account balance or class of transactions. Moreover, these findings do not differ from Helliari et al. (1996) who found that the majority of the UK auditors were able to identify the risk factors at the financial statements level and those at the account balance or class of transactions level. In the same vein, Messier et al. (2000) reported that auditing standards support the distinction by discussing risk at the financial statement level and at the individual account balance or class of transactions level. Also Porter et al. (2003) reported that inherent risk and control risk need to be considered at two levels, namely, the overall (financial statement) level and the individual account or audit segment level. The results from contingency tables and calculated Chi-square value indicate that the risk factors associated with the financial statement level are independent from those associated with the account balance level.

The auditors were also able to divorce factors associated with a high level of risk from others associated with a low risk level. In this respect, out of the 60 factors, the majority of auditors (75.6%) succeeded in recognizing between 40 and 49 factors. In more detail, more than 93% of the participants could perceive at least 67% of the factors giving support to the conclusion that the Libyan auditors could perceive the risk factors at a high level and a low level of risk. In this regard, results from contingency tables and calculated Chi-square value indicate that the risk factors associated with a high level of risk are independent from those associated with a low level of risk. This analysis appears to suggest that the Libyan auditors may be conservative in their assessment. This could result in relying heavily on substantive testing in collecting evidence, and worries about negligence claims. This may be supported by reference to the 56.7% of participants who considered the low turnover of top management in the past years to be a high level of risk. In the same respect, 61.6% suggested that the existence of very few overdue accounts receivable could create a high level of risk. On the basis of the above explanation, it can be mentioned that paying



more attention to high risk factors than low ones and considering factors at a low level of risk as high risk factors might result in allocating more audit resources than necessary in the low risk areas. This could result in the over-auditing of low risk areas and possibly under-auditing of other high risk areas. Academic auditing literature indicates that developing a cost effective, risk-based audit approach requires that the auditor should be able to identify areas of greatest risk to be able to determine the nature, timing and the extent of the audit tests to be applied (see Houghton and Fogarty, 1991).

At this stage of the analysis and based on the responses of the Libyan auditors on the third part of the questionnaire, it can be concluded that the findings are robust. As the 60 inherent and control risk factors were presented in a random order and the auditors have dealt with them differently, it can be concluded that their responses identifying and distinguishing between the different categories of risk were not based on a random basis or only due to chance. In other words, if the participants had ticked the factors randomly, they would have not succeeded in identifying most of the control risk factors, financial statements level factors, factors affecting account balance or class of transactions level, factors associated with a high and a low level of risk and failed in identifying the majority of inherent risk factors as they actually did.

10. Conclusion

The empirical evidence of this research reported that the auditors could identify most control risk factors and failed to do the same with the majority of inherent risk factors. The majority of Libyan auditors considered most inherent risk factors as control risk factors. Although this result gave an impression that most Libyan auditors were not familiar with the concept of inherent risk, based on previous studies, this overlap between inherent risk factors and control risk factors lends support to the academic auditing literature which suggests that inherent and control risk factors are interdependent and these risks are to be assessed together or combined.

The conclusion of the Libyan auditors' responses on this issue are consistent with Waller (1993) who reported that the dependency between inherent risk and control risk assessment may be caused by the overlap in the observed inherent and control risk factors. Spicer and Oppenheim et al. (1990) pointed out that inherent and control risk are often interrelated when they stated that inherent and control risk are so closely interrelated that it is often difficult to decide whether particular factors contribute to one element or the other. The auditor may therefore choose to consider them together and make a combined assessment of inherent and control risk. In their study, developments in the audit methodologies of large accounting firms in the UK, the USA and Canada, Lemon et al. (2000) found out that some participants believe that the separation of inherent risk and control risk is not always easy to apply in practice. Colbert (1988) reported that auditors rely on their professional judgment when they assess the factors that affect inherent and control risk but they are generally thought to be less accustomed to assessing inherent risk. Chong (1992) points out that previous studies show that positive identification of inherent risk factors is a difficult task. Guy et al. (1998) also enhanced what has been mentioned above when they stated that many CPA firms in the USA combined the inherent and control risk assessments.

The Libyan auditors were able to distinguish between the factors that affect the financial statements level and the account balance or class of transactions level. However, they paid more attention to the factors that are associated with a high risk level than a low risk level. In this respect, factors were associated with a low level of risk have been considered by some auditors as factors reflecting a high risk level. This conclusion, to a large extent, was consistent with the findings of some studies that were conducted in developed countries (e.g. Helliard et al. 1996; Shalier et al. 1998 and Messier et al. 2000).

This study contributes evidence that, despite working in a different context, the Libyan auditors' inherent and control risk assessment does not differ from their counterparts in the UK and USA. In other words, the results of this study revealed no significant differences between Libyan auditors and their counterparts in developed countries (e.g. Helliard et al., 1996 in the UK; Messier et al., 2000 and Haskins and Dirsmith,

1995 in the USA) in respect to how inherent and control risk are assessed. Libyan auditors are working in a developing context. This is different from the context of the countries of which the adopted accounting and auditing practices and education in Libya originated² (UK and USA). Therefore the similarities between the Libyan auditors' behavior and their counterparts in the USA and the UK in terms of inherent and control risk assessment may have come as a result of: a) adopting the USA and the UK accounting education systems in Libya (b) the influence of the USA and the UK, through their direct oil investment, on the accounting and auditing practices in Libya. (c) the influence of the UK and the USA GAAP and GAAS on the accounting and auditing practices in Libya. (d) the accounting educational background of the Libyan auditors (40.8% of the participants in this study completed their education in accounting either in the UK or in the USA).

² Accounting principles and auditing standards in Libya followed those of the UK and USA after the Second World War (Bait-EL-Mall et al., 1973). In this regard, previous studies (e.g. Kilani, 1988) concluded that the UK and USA through their direct foreign oil investment in Libya (economic influences) have strongly influenced Libyan accounting practices and audit profession in Libya.



The Society welcomes your valuable participation or comments on the Bulletin. To have your article published in ASCA Bulletin, send it to: info@ascasociety.org