

A COMPARATIVE STUDY ON AUDIT OF ACCOUNTING ESTIMATES IN USA, UK AND INDIA DESIRING USERS' PERCEPTIONS

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Abstract

Financial information conveyed through financial statements influence stakeholders' logical decision about the company. Reliability of financial information is important to them. Accounting estimates used to evaluate some accounting items might cause an impediment to the production of reliable information. Hence, audit of accounting estimates becomes a complex affair. The paper begins with a conceptual discussion on auditors' responsibilities with respect to the audit of accounting estimates. It also makes a comparative analysis of Indian standard on audit of accounting estimate with that of United States of America (USA) and United Kingdom (UK). Based on the theoretical discussion, a few critical issues governing audit of accounting estimates are identified and opinions of Chartered Accountants (CAs) and Students on those issues are collected and empirically analysed. It is ultimately observed that CAs have a practical insight into this issue which makes them different from Students. However, both the groups believe that a thorough enquiry into the managerial intentions behind use of accounting estimates would help an auditor to reduce the risk of material misstatements.

Keywords: Accounting Estimates; ISA (UK & Ireland) 540; Mann-Whitney U Test; Mean Score; Percentage Analysis; SA 540; SAS 122 (AU-C 540); Statutory Auditor.

1. Introduction

Financial statements convey information on financial result and financial position of a corporate enterprise that is inevitable source of decision making by the stakeholders. Quality of financial information impacts their logical decision making. Hence, it is the duty of both preparer and auditor of financial statements to ensure reliability and authenticity of financial statements. Financial statements are prepared in accordance with national or international financial reporting standards [in India, financial statements are prepared according to

Accounting Standards (AS) under Indian Generally Accepted Accounting Principles (GAAP)]. While the evaluation of most of the items in financial statements is made in historical terms, some of the items are subject to estimates. They are commonly known as accounting estimates. One such area where there is a plenty of scope of using accounting estimate is measurement and recognition of non-current intangible assets that constitute a significant proportion of the total asset base of the company. Accounting estimates involve a great deal of subjectivity as two different estimates for an item can result in completely different accounting information. Consequently, financial result or position of the company would vary impacting decision making process of the stakeholders (Sacer, et.al., 2016). As accounting estimates involve a number of managerial judgements, audit of accounting estimates is a complex issue for the accounting profession. Many audit firms have expressed their views regarding problems in inspecting accounting estimate. Hence, the United States Securities and Exchange Commission (SEC) had tightened the disclosure norms for accounting estimates (KPMG, 2015).

2. Objectives of the Study

Based on the research problem, the main research objectives of the study are:

- (i) To conceptually discuss the responsibilities of the auditors with regard to audit of accounting estimates in the light of applicable auditing standard;
- (ii) To comparatively analyse different provisions of the auditing standards governing audit of accounting estimates in USA, UK and India; and
- (iii) To empirically analyse users' perceptions on audit of accounting estimates.

3. Auditing Accounting Estimates based on Indian Auditing Standard

Accounting estimate is an important tool in the hands of the management to manipulate financial result. Management's choice of assumption, method applied could influence accounting estimate. Therefore, accounting estimate is detrimental to the conduct of a quality audit. The auditor needs to perform necessary audit procedures to ensure that accounting estimates are not used for material misstatement and assumptions of accounting estimates have been consistently used and disclosed in the financial statements. Auditing accounting estimates, fair value estimates and related disclosures are one of the most crucial areas of auditing. It involves significant amount of managerial judgements. Failure to properly audit these issues may give rise to possible frauds. In India, Standard on Auditing (SA) 540 titled 'Auditing Accounting Estimates, including fair Value Accounting Estimates and Related

Disclosures' issued by the Institute of Chartered Accountants of India (ICAI) guides an auditor in this respect.

As per the provision of this standard, the auditor should have an understanding of a few issues in order to audit accounting estimates, such as the financial reporting framework followed by the company while preparing financial statements; requirement for accounting estimates and revision of accounting estimates in case of changing circumstances; assumptions required for accounting estimates; changes in assumptions over years; means used for development of estimates; requirements for management's expert; relevant internal control with respect to accounting estimates; and effect of estimation doubt on the opinion of auditors.

The auditor should measure whether estimation doubt can lead to significant risk. If the management does not deal with judgmental doubts, it may lead to major risks. In that case, the auditor should collect adequate suitable evidence on management's objective behind development of accounting estimate in the financial statements.

The auditor is required to appraise rationality of the assumptions in view of applicable financial reporting framework. He may also state a range within which it evaluates the rationality of the assumptions. He should obtain written representation from the management and those charged with governance about reasonableness of assumptions used in formulation of accounting estimates.

The auditor should come to a decision whether accounting estimates are rational within the appropriate financial reporting framework of the firm or are misstated. He should guarantee that accounting estimates and estimation uncertainties are disclosed in the financial statements as per the provision of applicable financial reporting framework. They also should try to measure management's partiality from their choice of accounting estimates.

Based on assessed risk of material misstatement, the auditor should assure that financial statements are prepared as per applicable financial reporting framework; methods of accounting estimates are suitable and reliable; adequate and proper evidence have been collected about accounting estimates; assumptions used for development of accounting estimates are rational; and internal control mechanism with respect to accounting estimate are efficient. Finally, Auditor's conclusion about fairness of accounting estimates and their disclosure and possible management bias should be documented (ICAI, 2009).

4. Auditing Accounting Estimates: Comparison of Auditing Standards in Select Countries

In this segment, the main objective is to make a comparative study among the provisions of auditing standards governing audit of accounting estimates in a few countries including India. As per World Bank data dated July 22, 2016, the first 10 countries of the world as per their Gross Domestic Product (GDP) calculated as per Purchasing Power Parity (PPP) theory are: China, United States (US), India, Japan, Germany, Russia, Brazil, Indonesia, United Kingdom (UK) and France (World Bank, 2016). Among these 10 countries, for the current study, three countries - US, UK and India are selected for the current study based on Judgemental Sampling technique (Kothari, 2010). All three countries have a developed or developing economies and significant contribution in regulatory development for accounting and auditing issues.

In all three countries, accounting estimates are the most critical area of auditing as it involves significant amount of managerial judgements. In each country under consideration, there is a professional standard that guides an auditor in auditing accounting estimates.

In the US, the Auditing Standards Board (ASB) under the American Institute of Certified Public Accountants issues auditing standards. Different aspects of auditing which are represented with the help of different Statements of Auditing Standards (SASs) were known as Auditing (AU) sections. With a view to improving the applicability of SASs and making it comparable with International Standards on Auditing (ISAs) issued by the International Auditing and Assurance Standards Board (IAASB) under the International Federation of Accountants (IFAC), ASB has started redrafting the SASs in line with ISAs. Consequently, old auditing (AU) sections were converted into new auditing section. In order to avoid any confusion between the old and new auditing sections, the new auditing sections are termed as Clarified Auditing Sections (AU-C Sections) (Flood, 2015). The applicable auditing standard for audit of accounting estimates is SAS-122 (AU-C 540) titled, 'Auditing Accounting Estimates, Including Fair Value Accounting Estimates, and Related Disclosures'.

In UK, the Financial Reporting Council (FRC) is entrusted with the duty of issuing auditing standards. In 2004, auditing standards were fully converged with ISAs and the FRC adopted this standard without any change. The new standards are known as ISAs (UK & Ireland). The applicable standard for audit of accounting estimate is ISA (UK & Ireland) 540 titled, 'Audit of Accounting Estimate'.

As mentioned in Section 2, in India, SA-540 is the governing standard for audit of accounting estimates. A comparative analysis of the requirements of these three individual standards is made in the following table.

Table 1
Requirements of Auditing Standards governing Audit of Accounting Estimates in USA, UK and India

United States of America	United Kingdom	India
<ul style="list-style-type: none"> ◆ Understanding crucial aspects for formulation of accounting estimates; ◆ Evaluating estimation uncertainty; ◆ Evaluating rationality of assumptions; ◆ Gathering evidences on managerial intent; ◆ Assessing impact of accounting estimates on material misstatement; ◆ Assuring disclosure of estimation uncertainty; ◆ Evaluation of management bias; ◆ Documentation of key aspects (AICPA, 2012). 	<ul style="list-style-type: none"> ◆ Understanding vital aspects for formulation of accounting estimates; ◆ Evaluation of ambiguity in judgment; ◆ Evaluating reasonableness of assumptions; ◆ Collecting evidences on managerial intent; ◆ Evaluating impact of accounting estimates on material misstatement; ◆ Attesting disclosure of estimation uncertainty; ◆ Assessment of management bias; ◆ Obtaining written representation from management and those charged with governance about rationality of accounting estimates; ◆ Documentation of important aspects (FRC, 2010). 	<ul style="list-style-type: none"> ◆ Understanding critical aspects for formulation of accounting estimates; ◆ Evaluation of estimation uncertainty; ◆ Evaluating sensibleness of assumptions; ◆ Acquiring evidences on managerial intent; ◆ Assessing impact of accounting estimates on material misstatement; ◆ Assuring disclosure of estimation uncertainty; ◆ Examination of management bias; ◆ Gathering written representation from management and those charged with governance about reasonableness of accounting estimates; ◆ Documentation of key aspects (ICAI, 2009).

Source: Compilation by Author based on SAS–122 (AU–C 540), ISA (UK & Ireland)–540 and SA–540

It is observed from the above table that the provisions of these standards are almost identical. All three standards require the auditor to understand the key aspects for formulation of accounting estimates. They should gather sufficient and appropriate evidences on managerial intent behind a particular estimate. They should also evaluate reasonableness of the assumptions taken for the estimate, estimation uncertainty and inherent management bias in the use of that estimate. They should also check disclosure of estimation uncertainty in the financial statements. In addition to the above requirements, in UK and India, the auditors are required to obtain written confirmations from management or those charged with governance about reasonableness of written confirmations and document the key aspects relating to audit of accounting estimates.

5. Analysis of Users' Perceptions on Audit of Accounting Estimates

5.1 Data & Methodology

In the previous sections, a theoretical background has been set based on governing audit standards in different countries. Based on such theoretical underpinning into this issue and a meticulous consultation with a few reputed accounting firms in Kolkata, a few pertinent issues have been selected concerning audit of accounting estimates. They are as follows:

- (i) Problem of accounting estimates in drawing conclusive evidence about financial statement (V_1);
- (ii) Difficulty to identify management's bias using accounting estimates (V_2);
- (iii) Enquiry into management's justification behind using certain accounting estimates (V_3);
- (iv) Non-reliance on the expert's certificate on accounting estimates (V_4).

These four issues have been converted into four close ended statements and incorporated in a structured questionnaire with 5-point scale where the scales represent different degrees of agreement of the respondents with a particular statement. Now, opinions on these 4 issues are collected from two categories of respondents. They are practising Chartered Accountants (CAs) Students pursuing Chartered Accountancy Course.

The main reason behind selection of these two respondent categories is evident from their occupation only. CAs in addition to the theoretical knowledge in this field deals with audit of accounting estimates in their engagements, whereas Students have a strong theoretical knowledge and may be a few new ideas in this field.

An initial sample of 250 respondents has been selected for each of the categories. The questionnaire is administered on them and during January, 2016 to June, 2016 in Kolkata, India. Completed responses were received only from 373 respondents comprising 227 CAs and 146 Students. Out of these 373 respondents, majority (98.4%) are male respondents, while it was not intentional. However, the entire respondents are well distributed in terms of their age groups. Majority of them (42.6%) are young in age (Age less than 30 years) followed by (33.5%) middle aged groups (Age between 30 to 50 years). After the data collection is complete, the entire data is incorporated in statistical software package, SPSS 20.0.

5.2 Perceptions of Individual Respondent Categories on Audit of Accounting Estimates

As mentioned earlier, the data is collected in 5-point scale showing different levels of agreement of the respondents. With a view to conducting statistical analysis qualitative opinions of the respondents needs to be converted into quantitative data. Hence, individual perceptions are assigned a score. Consequently, the level Strong Agreement (SA) received a score of 5; Agreement (A) received a score of 4; Neutral Approach (N) had a score of 3; Disagreement (D) received a score of 2; and finally, Strong Disagreement (SD) received a score of 1. Now, the opinions of the respondents on 4 different variables are projected in terms of 5 different numbers. As the data become quantitative, it is now becomes easy to find out the proportion of each respondent category in each agreement level. Such proportion would convey the individual perceptions of the respondent categories towards a particular variable. The result is shown below:

Table 2
Percentage of Respondents in Different Agreement Levels

Variable Code	Variables	Category	SA	A	N	D	SD
V ₁	Problem of accounting estimates in drawing conclusive evidence about financial statement	CAs	2.20%	49.30%	15.40%	33.00%	0.00%
		Students	12.30%	44.50%	15.10%	21.20%	6.80%
		Total	6.20%	47.50%	15.30%	28.40%	2.70%
V ₂	Difficulty to identify	CAs	4.40%	74.90%	10.60%	10.10%	0.00%

	management's bias using accounting estimates	Students	19.20%	59.60%	10.30%	10.30%	0.70%
		Total	10.20%	68.90%	10.50%	10.20%	0.30%
V ₃	Enquiry into management's justification behind using certain accounting estimates	CAs	4.40%	87.20%	4.40%	4.00%	0.00%
		Students	26.00%	63.00%	9.60%	1.40%	0.00%
		Total	12.90%	77.70%	6.40%	2.90%	0.00%
V ₄	Non-reliance on the expert's certificate on accounting estimates	CAs	10.60%	63.40%	9.30%	16.70%	0.00%
		Students	26.00%	50.70%	12.30%	7.50%	3.40%
		Total	16.60%	58.40%	10.50%	13.10%	1.30%

Source: Compilation of Field Survey Data using SPSS 20.0

According to most of the CAs and Students, accounting estimate creates some problem in drawing conclusive evidence about the financial statements. They are also of this opinion that that management bias cannot be identified in accounting estimates. Maximum number of both the respondent categories had proposed that auditors should conduct an enquiry into the management's justification behind selection of certain estimates. Wide range of respondents from both the occupational groups prohibits auditors from relying on the expert's certificate on accounting estimates (Refer to Table 2).

From the above discussion, it is evident that both CAs and Students consider accounting estimate as an area of significant risk and management often use this measure for fabrication of financial statements. However, a thorough enquiry into the assumptions and justification of accounting estimates could reduce the risk of material misstatement.

5.3 Importance of Individual Variables Concerning Audit of Accounting Estimates

As mentioned in Section 3, the questionnaire for the current study is designed on 5-point scale and each statement in the questionnaire is associated with 5 levels of agreement. Each agreement level is assigned a particular score (Refer to Section 3). Now, 373 respondents comprising 227 CAs and 146 Students assign individual scores to each variable depending upon their level of agreement with it. When the data collection is complete, each variable has 373 different scores. Mean score for each variable across respondent groups has been calculated. As the score 3 in questionnaire represent a neutral outlook, mean score more than 3 signifies respondents' inclination towards agreement with that variable and vice versa.

Based on this rule, mean score for each variable has been calculated for individual respondent categories and for the entire sample.

Table 3
Mean Score of Individual Occupational Categories and Overall Sample

Variable Code	Variables	Mean Score		
		CAs	Students	Total
V ₁	Problem of accounting estimates in drawing conclusive evidence about financial statement	3.207048	3.342466	3.260054
V ₂	Difficulty to identify management's bias using accounting estimates	3.735683	3.863014	3.785523
V ₃	Enquiry into management's justification behind using certain accounting estimates	3.920705	4.136986	4.005362
V ₄	Non-reliance on the expert's certificate on accounting estimates	3.678414	3.883562	3.758713

Source: Compilation of Field Survey Data using SPSS 20.0

In the above table, both CAs and Students have shown agreement (Mean score more than 3) to all 4 variables considered in this study. However, the magnitude of mean score determines their level of agreement. Accordingly, level of agreement of the both the respondent categories are highest for 'Enquiry into management's justification behind using certain accounting estimates' (V₃). Hence, it may be said that according to both CAs and Students, a thorough enquiry into the managerial justification behind use of accounting estimates is the most important issue considered by both the respondent categories. On the other hand, level of agreement is least for the variable, 'Problem of accounting estimates in drawing conclusive evidence about financial statement' (V₁). Hence, it may be said that CAs and Students do not allot too much significance to the problem of accounting estimates in drawing conclusive evidences.

5.4 Significant difference of opinions between CAs and Students on Audit of Accounting Estimates

In the current study, two sets of respondents are selected for field survey: CAs and Students. While CAs have professional knowledge and practical experience in audit of accounting estimates, students pursuing Chartered Accountancy course know this issue from books and other legal and regulatory pronouncements. Hence, there may be a possibility of difference of opinion between these two respondent groups. In order to test it empirically, Mann-Whitney (M-W) U test is conducted which is a non-parametric test conducted to compare differences between two independent groups when the dependent variable is either continuous or ordinal but not normally distributed (Roy & Saha, 2016). Here, CAs and Students are two independent groups and variables selected for the study are the Dependent Variable. M-W U test is conducted subject to fulfilment of following assumptions (Fay & Proschan, 2010):

(i) The dependent variable should be measured at ordinal level

Variables selected for this current study are measured in 5 point scale. It is an ordinal scale. Hence, the assumption is met for the study.

(ii) Independent variable should consist of two categorical independent groups

Two groups, CAs and Students can be clearly identified and categorised. Hence, independent variable of the study i.e. occupation is categorical in nature. It fulfils the second assumption.

(iii) Observations of one group must be independent from observations of another group

Observations of CAs were no way influenced by the observations of Students. They were independent from each other. Hence, the assumption is met.

(iv) The Dependent Variable across independent groups do not follow normal distribution

In order to test normality of distribution of the dependent variables across independent groups, a hypothesis is taken:

◆ Null Hypothesis (H_0): Distribution is normal

◆ Alternate Hypothesis (H_1): Distribution is not normal

With a view to testing the above hypothesis, Shapiro-Wilk's Test is conducted for each select variable across independent groups at 'n' (sample size of each group) degrees of freedom and 5% level of significance. If P-Value of statistic is less than 0.05, H_0 is not accepted proving the distribution as non-normal distribution.

Table 4

Results of Shapiro-Wilks Test on Individual Variables

Variable Code	Variables	Categories	Statistics	DF	P-Value	Decision Rule	Decision
V ₁	Problem of accounting estimates in drawing conclusive evidence about financial statement	CA	0.762	227	0.000	P-Value<0.05	Rejected
		Student	0.869	146	0.000	P-Value<0.05	Rejected
V ₂	Difficulty to identify management's bias using accounting estimates	CA	0.637	227	0.000	P-Value<0.05	Rejected
		Student	0.792	146	0.000	P-Value<0.05	Rejected
V ₃	Enquiry into management's justification behind using certain accounting estimates	CA	0.460	227	0.000	P-Value<0.05	Rejected
		Student	0.764	146	0.000	P-Value<0.05	Rejected
V ₄	Non-reliance on the expert's certificate on accounting estimates	CA	0.750	227	0.000	P-Value<0.05	Rejected
		Student	0.815	146	0.000	P-Value<0.05	Rejected

Source: Compilation of Field Survey Data using SPSS 20.0

It is observed here that H_0 is not accepted for any of the dependent variables across independent groups. As Null Hypothesis is rejected and Alternate Hypothesis is accepted, data for all dependent variables across groups do not follow normal distribution which is in line with the spirit of this assumption.

Following fulfilment of all four assumptions for conducting M-W U test, the test is conducted on the current sample. The test involves assigning ranks to each individual observation. Summation of ranks from each sample gives us the test statistic known as U. For large samples, U follows normal distribution. Hence, standardised value of the test statistics is computed and decision is taken on the null hypothesis which state that no significant

difference exists between the independent groups (Zar, 1998). The hypothesis designed for the current study is:

H₀: There is no significant difference of opinions between CAs and Students;

H₁: Significant difference of opinions exists between CAs and Students.

At 5% level of significance and K-1 Degree of Freedom (DF) where K is number of independent groups (2), if probability (P-Value) of selecting H₀ is less than 0.05, H₀ cannot be accepted and vice versa.

Table 5
Results of Mann–Whitney U Test for Select Variables

Variable Code	Variables	U	Z	P-Value	Decision Rule	Decision on H ₀
V ₁	Problem of accounting estimates in drawing conclusive evidence about financial statement	15113.5	-1.54071	0.123388	P-Value>0.05	Accepted
V ₂	Difficulty to identify management's bias using accounting estimates	14744.5	-2.19614	0.028082	P-Value<0.05	Rejected
V ₃	Enquiry into management's justification behind using certain accounting estimates	13645	-3.96353	0.000074	P-Value<0.05	Rejected
V ₄	Non-reliance on the expert's certificate on accounting estimates	14196	-2.62523	0.008659	P-Value<0.05	Rejected

Source: Compilation of Field Survey Data using SPSS 20.0

H₀ is accepted only for the variable, 'Problem of accounting estimates in drawing conclusive evidence about financial statement' (V₁). It suggests that respondents irrespective of their professional experience accept the problems associated with accounting estimate in drawing conclusive evidence about financial statements. However, for rest of the variables, opinions

of CAs are significantly different from that of Students mainly because of CAs' practical insight in this field.

6. Conclusions

Accounting estimates involve a great deal of subjectivity and managerial judgements. Hence, audit of accounting estimates is a complex job. However, SA-540 vividly describes auditors' responsibilities with respect to collection of sufficient and appropriate evidences on accounting estimates to reduce risk of material misstatements. When the situation in India is compared to that of USA and UK, it is observed that the standard in all three countries is almost similar. In fact, Indian standard is more comprehensive than its foreign counterparts. Based on theoretical discussion, a few critical issues are selected. CAs and Students were asked to give their opinion on those issues. According to them accounting estimates do pose some problems in drawing conclusive evidence about financial statements as they are highly driven by management bias. A thorough investigation into the estimates is thus necessary. Enquiry into the management's justification behind use of accounting estimate is the most important variable considered by both the respondent categories. Research findings also suggest that CAs and Students perceive the issue of accounting estimate differently. CAs with their professional experience has a practical insight into this issue, whereas Students observe this issue academically. Though accounting estimates pose a threat of material misstatements, as the study suggests proper audit of accounting estimate as per the provisions of SA-540 can bring out the reliable information and help stakeholders in decision making process.

References

- (i) AICPA (2012), SAS 122 (AU-C 540): Auditing Accounting Estimates, Including Fair Value Accounting Estimates, and Related Disclosures
- (ii) Fay, M., & Proschan, M. (2010), "Wilcoxon–Mann–Whitney or t–test? On assumptions for hypothesis tests and multiple interpretations of decision rules" *Statistics Surveys*, Vol. 4, Pp. 1–39
- (iii) Flood, J. (2015), *Wiley Practitioner's Guide to GAAS 2015: Covering all SASs, SSAEs, SSARSs, PCAOB Auditing Standards and Interpretations*, Wiley Publications
- (iv) FRC (2010), ISA (UK and Ireland) 540: Auditing Accounting Estimates
- (v) ICAI (2009), *Standard on Auditing (SA) – 540: Auditing Accounting Estimates, Including Fair Value Accounting Estimates, and Related Disclosures*

- (vi) Kothari, C. (2010), *Research Methodology: Methods and Techniques*, New Age International Publishers, New Delhi
- (vii) KPMG (2015), *Getting Accounting Judgments and Estimates "Right". Board Perspectives*, Retrieved from <https://boardleadership.kpmg.us/content/dam/blc/pdfs/2014/accounting-judgments-estimates-board-perspectives.pdf>
- (viii) Roy, M. & Saha, S. (2016), "Relationship of Statutory Auditors' Competence and Independence with Audit Quality", *Vilakshan*, Vol. 13, No. 1, Pp. 61-80
- (ix) Sacer, I., Malis, S., & Pavic, I. (2016), "The Impact of Accounting Estimates on Financial Position and Business Performance –Case of Non-Current Intangible and Tangible Assets", *Procedia Economics and Finance*, Vol. 39, Pp. 399-411
- (x) World Bank (2016), *Gross Domestic Product, 2015, PPP*.
- (xi) Zar, J. (1998), *Biostatistical Analysis*, Prentice Hall International, New Jersey