Financial Decision-Making Using Accounting Concepts in the Context of Socio-Economic Development: A Case Study about the Integrated Approach

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Abstract

This paper is an outgrowth of a research study based on the analysis of data collected through a case study-based questionnaire administered to as many as 152 interviewees belonging to different groups in Bangladesh. The academics argue in the literature that economic evaluations, financing, and investment decisions, should be made based on an integrated view that encompasses the accounting, economic and financial aspects all together. While there is a wide agreement about this approach, it is not clear whether people really follow it in practice. The majority of the interviewees, in this Case Study, did not follow this approach in practice and as a consequence, wrong decisions were made. Such an investment behavior can cause distortions in economic resource allocations, inefficiencies, and environmental harms. A fruitful way to enhance the socio-economic growth in the country would be, therefore, to increase the investors' awareness to this issue. It is not enough that people know and concur with the need for an integrated approach. Potential investors should also know how to do it. This paper pointed out several factors that were significant in explaining how this discrepancy between theory and practice can be reduced. There is a need to encourage investors to have a longer time-horizon; and to increase their business experience before they actually turn to investing. The compensation schemes of those who are involved in making investment decisions should be tied to the investment performance, to the extent possible. These actions will increase the efficiency of the market participants and stir the Bangladesh economy to the growth path, to realize its promising potential.

Focus of the Study

The academic literature has documented that economic evaluations, financing, and investment decisions, should be made based on an integrated view that encompasses the financial, accounting, and economic aspects all together. One may see for example, Aguirre and Hagigi (1987); Hagigi and Sponza (1990); Hagigi and Williams (1993), Bailey and Soyka (Spring 1996) among others. Ignoring one or two of these considerations might result in sub-optimal decisions. While in theory there is a wide agreement about this approach, it is not clear whether people really use it in practice. The consequences of decisions, that do not employ an integrated approach, are harmful (Dechow et al, 1996). They are causing distortions in economic resource allocation, inefficiencies, environmental harms, and they stand as impediments to economic growth as well (Gamble et al, 2008; Luft et al, 2002). Evidently, academicians are of the view that the financial decision-making process using accounting concepts in the context of socio-economic development is really important (McKnight and Manly, 2005; Strawser, 1994).

The reason behind designing this case study is to learn whether investors and potential investors employ this integrated approach in their actual investment practices. A case was designed in such a way that resulted in wrong decisions if the integrated approach was not used. A large sample of investors and potential investors with varying degrees of different characteristics from Bangladesh were surveyed. 152 interviewees, spanning a wide range of decision-makers, were asked to make investment decisions while provided with financial, economic, and accounting data. The resulting decisions indicated very clearly that, typically,

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investors did not integrate these three dimensions in forming their decisions and therefore made wrong socio-economic decisions.

The ultimate aim of the study in this paper is to examine to what extent knowledge of Accounting and Financial concepts presented through a Case Study is really relevant to Economists for making investment decisions in the context of socio-economic growth & development as well as poverty reduction in Bangladesh, in particular. In other words, this is an endeavor to explore whether the knowledge in Accounting and Finance strengthens the hands of Economists for the purpose of making decisions in regard to promoting balanced economic growth & development, resulting in reduction of poverty. The analysis of this paper and its results are entirely based on the data collected with the help of a Case study-based questionnaire administered to 31 Potential Investors, 31 Loan Officers, 30 University Teachers of Accounting, 30 University Teachers of Economics and 30 University Teachers of Finance of Bangladesh. They have been selected by using Convenience sampling. They are now tabulated in Table I.

The discussion of this paper has been presented in two sections - Section-I and Section-II. This study in both Section-I and Section-II attempts to contribute to the socio-economic development of Bangladesh by pointing out the importance of applying the integrated approach and eliminating unnecessary impediments to economic growth.

The purpose of the study in Section-I is to examine whether investors and potential investors as well as lenders make investment decisions and lending decisions following an integrated approach to Accounting, Economics and Finance. On the other hand, the purpose of the study in Section-II is to study the attitudes of respondents of five different groups of experts under study in terms of their extent of agreement or disagreement with the different facets of a Case study regarding the relevance of the knowledge in Accounting and Financial concepts to Economists in the context of making investment decisions for promoting balanced economic growth and development resulting in poverty reduction.

The Empirical Study

The empirical part of the study is presented in two sections i.e., Section-I and Section-II. Section-I analyzes the collected data using logistic regression. Section-II analyzes the data by testing the null hypotheses meant for the study. A chi-square test has been applied to test Set-I null hypotheses and a standard binomial probability test: Z-test for testing the Set-II null hypotheses.

Section-I

A large sample of investors and potential investors with varying degrees of different characteristics from Bangladesh were surveyed. 152 interviewees, spanning a wide range of decision-makers, were asked to make investment decisions while provided with accounting, financial, and economic data. The interviewees were from the following five sectors (30 or 31 from each sector): loan-officers; university economic educators; university accounting educators; university finance educators; and, finally, from other different investors.

Each interviewee was asked to help financing one of two companies, both of which have, great future growth potential. Both of them are in the poultry industry. Each interviewee was asked to state his or her preference between Mahfuja (**M** herein after) Co. and Ali (**A** herein after) Co. The firms' Balance-Sheets and Income Statements were provided together with some financial ratios, which were calculated based on these statements, but not incorporating the information imbedded in their attached footnotes. Since the financial ratios were calculated ignoring the information in the footnotes, they were potentially misleading. They indicated a clear preference to company **M**, while in reality, after adjusting the financial ratios to the accounting and economic information, the preference switched drastically towards favoring company **A**. The attached footnotes were related to six items having implications to other accounting, economic and environmental facets, as follows: inventories; leases; pensions; investments in marketable securities; deferred tax liability (DTL) and contingent liabilities.

According to the integrated approach, a correct analysis should not accept the inventory item and its impact on the Cost of Goods Sold item at face value. One cannot compare performances of two companies when their inventory valuation methods are different. This is true in particular in the case of Bangladesh as the inflation rate in this country was substantial during recent years. One should be aware that inflation impacts differently the reported income and assets of firms that are using different inventory valuation methods. Again, to summarize, one has to use an integrated approach, encompassing: economics (for example, to incorporate the impact of inflation); accounting (to realize the differential impact of the various accounting methods); and finance (to use the standard financial analysis).

Incorporating the lease items is done by "capitalizing" the operating lease costs, by adding the present value of future lease payments to the firm's assets and liabilities in the Balance-Sheet. Such an adjustment changes the ratio of Liability to Total Assets.

Incorporating the pension items is done by removing the net pension asset/liability from the Balance-Sheet and adding the total pension liability to the total liabilities and the pension fund assets to the total assets. Such an adjustment, too, changes the ratio of Liability to Total Assets.

M company had a huge loss due to its investments in marketable securities. However, because it classified these transactions as "Available for Sale," this huge loss was not reflected in its Income statement. An appropriate adjustment would show this huge loss directly in the body of the Income Statement and would reduce substantially the reported Net Income of company **M**.

Company **M** was involved in certain environmental matters. It was stated that currently the Company could not accurately predict the timing and amounts of future payments that might result. Because of not being able to quantify it, this important information was not disclosed in the body of the financial statements. Furthermore, it was stated in the case that, while the disputed amounts were substantial, the company would not have to pay off any of them as there was a government commitment to fully pay them. However, for the welfare of the economy, it does not really matter who is paying for it. The fact that there were environmental problems is harmful for the economy regardless who is paying for the violations. Again, this important socioeconomic information was not reflected in the body of the financial statements.

Company **A** had a substantial amount of Deferred Tax Liabilities (DTL), much more than Company **M** had. However, DTL should not be treated as any other liability. First, it is stated at its future value, which is, smaller than its present value. In Bangladesh, in particular, with the high inflation rate, DTL should be treated as a substantially smaller liability than the figure in the Balance Sheet. Furthermore, the amount of DTL, which is mentioned in the Balance Sheet will never be paid off because each time that it is paid, it is replaced by another amount of DTL. Therefore, according to the "going concern" assumption that the firm will continue its existence, DTL should not be viewed as a liability for financial statement analysis purposes, but it should be counted as equity.

Again, each interviewee was asked to indicate a preference for method **A** or **B** for Project-1, to reveal tendency to safety-first approach, and between method **C** or **D** for Project-2, to discern an inclination towards the upside potential.

Project 1 (Testing for Safety-First Behavior): A specific rate of return is expected to be achieved by using a traditional investment (**Method A**), or by investing in an innovative alternative method (**Method B**). Both methods are expected to result in about the same overall rate of return. However, in almost all scenarios, **Method B** is expected to result in a higher rate of return, while there is a small (and significant) probability of an exceptionally large loss.

Project 2 (Testing for Seeking Upside Potential): A specific rate of return is expected to be achieved by using a traditional investment (**Method C**), or by investing in an innovative alternative method (**Method D**). Both methods are expected to result in about the same overall rate of return. However, in most scenarios, **Method D** is expected to result in a lower rate of return, while there is a small (and significant) probability of an exceptionally high rate of return.

To study whether the awareness of the need for applying the integrated approach depends on some explanatory variables, the study explored the impact of five different variables on the decision-makers: (1) lender versus investor viewpoint; (2) the degree to which the compensation of the decision-maker is tied to the success of the decision; (3) the time-horizon; (4) the experience; and finally, (5) the degree to which the decision-maker shares the decision with others or whether the responsibility is borne solely by the decision-maker.

Finally, the study runs Logistic Regressions to test the level of the statistical significance of the various findings.

Discussion and Results of Empirical Analysis [For Section-I]

As seen in Table II, Panel A, a vast majority of the interviewees opted to favor company **M**, which on the surface exhibited a better financial performance, but in reality did not perform as well as Company **A**. This finding indicates that the decision-makers did not incorporate all the accounting, economic and financial information, as the integrated view calls for. Hence, most of the investors made the wrong decision, which typically results in reduced socio-economic welfare for the country.

Table II, Panel A reveals that, typically, the decision-makers with a lender perspective did less poorly than those with an investor's perspective. There were fewer of those with a lender perspective who opted for **M**, than those of an investor's view point, of whom 92.6% opted for **M**. Table III, Panel A clearly demonstrates that the difference between these two groups is statistically significant, at the level of 1% (p-value = 0.005).

A further examination of how often footnote information was mentioned in decision-makers' explanations shreds some light on this interesting phenomenon. For example, those having a lender perspective are more likely, compared to those with an investor perspective, to mention information about leases in their explanations. Table II, Panel B shows that 16.7% of those with a lender perspective mentioned lease, while only 2.5% of those with an investor perspective considered it. Table III, Panel B clearly demonstrates that the difference between these two groups, consideration of lease information, is statistically significant, at the level of 5% (p-value = 0.049).

Table III, Panels B through H, report the statistical significance of the various characteristics in explaining the different items requiring adjustments.

Panel B shows that experience is the most significant characteristic in explaining awareness of the lease item, at the level of 1% (p-value = 0.006). Also significant are the distinction between the lender versus investor, at the level of 5% (p-value = 0.049); time-horizon, at the level of 10% (p-value = 0.052); and the nature of the compensation scheme, at the level of 10% (p-value = 0.006).

Panel C shows that responsibility is the only significant characteristic in explaining awareness of the pension item, at the level of 10%. The negative coefficient on Responsibility indicates that if the responsibility is borne solely by the decision-maker, then pension item is less likely to be mentioned.

Panel D shows that compensation is the most significant characteristic in explaining awareness of the investment item, at the level of 1% (p-value = 0.002). The significantly positive coefficient on Compensation indicates that if compensation is tied to the outcome of the project, then the investment item is more likely to be mentioned. Also significant is time-horizon, at the level of 5% (p-value = 0.027); and experience, at the level of 10% (p-value = 0.085). The significantly positive coefficient on Time-horizon indicates that as the investment time-horizon increases, decision-makers are more likely to consider the investment item in forming their decisions. The marginally significant coefficient on Experience takes on a positive sign, which indicates that more experienced decision-makers are more likely to pay attention to the investment item.

Panel E shows that time-horizon is the only significant characteristic in explaining awareness of the footnote information as to the environmental issue , at the significance level of 1% (p-value = 0.000).

Panel F shows that responsibility is the only significant characteristic in explaining awareness of

the footnote information pertaining to the inventory method, at the significance level of 5% (p-value = 0.022).

Panel G shows that the model does not have a good fit, and none of the variables is statistically significant.

Panel H shows that time-horizon, compensation, and responsibility all help to explain awareness of the footnote information. The positive signs on all of these three variables indicate that, generally speaking, the longer the time-horizon, the greater the extent to which compensation is tied to the outcome of the decision, and the more responsibility the decision-makers assume the more likely they will incorporate the footnote information in forming their decisions.

As seen in Table IV, Panel A, the majority of the interviewees opted for method A, which reflects preference for Safety-First (SF). It is important to note that this preference was substantially stronger for those having a lender perspective compared to those with an investor perspective. As Table IV, Panel B clearly demonstrates, the difference between these two groups is statistically significant, at the level of 5% (P-value = 0.011).

This interesting phenomenon explains the difficulty that investors, and in particular entrepreneurs, face in getting loans to finance their ventures in Bangladesh.

Table V deals with the upside potential case. It relates to the choice between methods **C** and **D**. **Method C** portrays a "regular" pattern of expected return variability. In most foreseeable scenarios, method **D** is expected to result in a lower rate of return than **C**, but it has a small (and significant) probability of having an exceptionally high rate of return. Table V, Panel A, presents the percentage distributions of those who prefer **C** and **D**, by different explanatory variables.

While in most of the cases the decision-makers preferred the safer **method C** and moved away from the upside potential, there were interesting differences in the degrees of preferences stemming from the examined explanatory variables.

The first variable, lender versus investor's viewpoint, did not explain the above mentioned preference. Indeed, as Panel B reveals, the logistic regression coefficient is not statistically significant (p-value = 0.888). However, all the other four explanatory variables are statistically significant. The coefficient on the second variable, Compensation, is significantly positive (p-value = 0.002), which reveals that as the degree to which the compensation of the decision-maker is tied to the success of the decision, the preference switches from method **C** to **D** to benefit from the upside potential. This result might have an implication for stimulating entrepreneurship development in Bangladesh. Such development can be enhanced by designing compensation schemes, for all the involved parties (loan-officers; employees etc.), that are tied, somehow, to the success of the business ventures. Once the decision-maker can benefit from the exceptional expected return, he or she will be motivated to take the extra risk to achieve it. A similar pattern is revealed by the significantly positive coefficient (p-value=0.022) on the third variable, Time-horizon. As the decision-maker's time-horizon is longer, the preference switches from **method C** to the method with the upside potential, **method D**. The conclusion from this is that promotions and compensations should be based more on long-term performance rather than on the short-run. The significantly positive coefficient (p-value=0.027) on the fourth variable, Experience, indicates that the longer the experience of the decision-maker, the more he or she will tend to select the project with the upside potential. This result is consistent with the academic literature that was previously mentioned, such as Rahman, among others. The significantly negative coefficient (p-value=0.026) on Responsibility indicates that the more a decision-maker shares the decisions and the responsibility with others, the more he or she will tend to switch away from selecting **method D**, the method with the upside potential.

Section-II

The purpose of the study in this section is to study the attitudes of respondents of five different groups of experts under study in terms of their extent of agreement or disagreement with the different facets

of a case study regarding the relevance of the knowledge of Accounting and Financial concepts to Economists in the context of making investment decisions for promoting balanced economic growth and development resulting in poverty reduction.

This section, as mentioned earlier, is meant for testing as many as eight null hypotheses. The following null hypotheses have been tested here:

Set-I

Ho-1: There is no systematic variation in responses amongst PI (Potential Investors), LO (Loan Officers), UTA (University Teachers of Accounting), UTE (University Teachers of Economics) and UTF (University Teachers of Finance) of Bangladesh with respect to making a choice between Mahfuja & Co and Ali & Co for the purpose of financing it by means of investment in shares or granting loans keeping in view their financial viability as well as contribution to economic growth & development.

Ho-2: There is no systematic variation in responses amongst PI (Potential Investors), LO (Loan Officers), UTA (University Teachers of Accounting), UTE (University Teachers of Economics), UTF (University Teachers of Finance) of Bangladesh with respect to the idea that Knowledge in Accounting and Financial Concepts is most relevant to Economists in adopting measures to stimulate balanced economic growth & development resulting in poverty reduction.

Ho-3: There is no systematic variation in responses amongst PI (Potential Investors), LO (Loan Officers), UTA (University Teachers of Accounting), UTE (University Teachers of Economics) and UTF (University Teachers of Finance) of Bangladesh with respect to the idea that Method-A is better than Method-B for financing Project-1 as well as for promoting economic growth and development resulting in poverty reduction.

Ho-4: There is no systematic variation in responses amongst PI (Potential Investors), LO (Loan Officers), UTA (University Teachers of Accounting), UTE (University Teachers of Economics) and UTF (University Teachers of Finance) of Bangladesh with respect to the idea that Method-C is better than Method-D for financing Project-2 as well as for promoting economic growth and development resulting in poverty reduction.

The above four hypotheses of Set-I have been tested by using Chi-square test of homogeneity.

Set-II

Ho-5: The proportion of respondents in each expert-group that agree with the idea that "Mahfuja & Co is more efficient than Ali & Co in regard to its financial viability and contribution to economic growth & development" is equal to ½ (i.e., 50%) against the one- sided alternative hypothesis: the said proportion is greater than ½ (i.e.,50%).

Ho-6: The proportion of respondents in each expert-group that agree with the idea that "Knowledge in Accounting and Financial Concepts is most relevant to Economists in adopting measures to stimulate economic growth & development resulting in poverty reduction" is equal to ½ (i.e., 50%) against the one-sided alternative hypothesis: the said proportion is greater than ½ (i.e., 50%).

Ho-7: The proportion of respondents in each expert-group that agree with the idea that "Method-A is better than Method-B for financing Project-1 as well as for promoting economic growth and development" is equal to ½ (ie., 50%) against the one-sided alternative hypothesis: the said proportion is greater than ½ (ie., 50%).

Ho-8: The proportion of respondents in each expert-group that agree with the idea that "Method-C is better than Method-D for financing Project-2 as well as for promoting economic growth and development" is equal to ½ (ie., 50%) against the one-sided alternative hypothesis: the said proportion is greater than ½ (ie., 50%).

The above four hypotheses of Set-II have been tested by using a binomial probability test, Z-test.

Discussion and Results of the Empirical Analysis [For Section-II]

To analyze the results, the following statistical tests have been applied:

The Chi-Square test

The Chi-square test (Blalock 1972; Best, 1978; Siegel, 1956) is a widely used test to evaluate whether frequencies empirically obtained, differ significantly from those that would be expected under certain theoretical conditions. It may be defined as follows:

$$\chi^2 = \sum \frac{(f_o - f_e)^2}{f_e}$$

Where f_o= observed frequency for a cell, f_e= corresponding expected frequency computed under the null hypothesis of homogeneity and Σ denotes summation over all cells, provided each of the cells has expected frequency ≥ 5.

This test will be used in the present study to examine two null hypotheses of homogeneity: **(i)** there is no systematic variation in the true relative frequency distribution of responses across different disciplines' experts with respect to the impact of different issues/ aspects of an interfacing approach to Accounting, Economics and Finance (i.e., the items in the questionnaire) on economic growth and development leading, in turn, to alleviation of poverty; (ii) there is no systematic variation in the true relative frequency distribution of responses across different SAARC countries' experts with respect to the effect of different issues/aspects of an interfacing approach to Accounting, Economics and Finance on economic growth and development leading, in turn, to reduction of poverty. If the computed value is greater than the table value, the null hypothesis is rejected.

Supposing the frequency distributions of responses over categories are recorded in a two-way table where the rows(r) correspond to r groups of experts and the columns (c) to the c categories of responses. Let f_{ij} be the frequency in the j-th column of the i-th row.

$$\text{Let } f_{io} = \sum_j f_{ij}; f_{oj} = \sum_i f_{ij}$$

denote the i-th row total and the j-th column total, respectively. Finally, let

$$n = \sum_j f_{io} = \sum_j f_{oj} = \sum_i \sum_i fij,$$

denote the total of all frequencies in the two-way table. Then, to test the null hypothesis of homogeneity, one computes:

$$\chi^2 = \sum_i \sum_j \frac{(f_{ij} - f_{io} f_{oj} / n)^2}{f_{io} f_{oj} / n}$$

and rejects the null hypothesis if the computed value of Chi-square > tabular value of Chi-square for (r-1) (c-1) degrees of freedom at the 5% level. The formula for χ^2 (Chi-square) can be simplified if r=2 and further simplified if r = c = 2. When any of the expected frequencies $f_{io} x f_{oj}/n$ has fallen short of 5, then some columns have been merged for computing Chi-square.

The Z-test

This test (Nagar and Das, 1983; Freund and Williams, 1958), a standard binomial probability test is based on the following statistic:

$$\text{Compute } Z = \sqrt{4n}\,(\hat{P} - \frac{1}{2})$$

Where n= sample size (total no. of responses) leaving out the "undecided" responses and p= sample proportion of respondents in a group agreeing or strongly agreeing with a particular issue/aspect of an interfacing approach to Accounting, Economics and Finance (in the present situation) to the total number of respondents in the group excluding those who were "undecided" (n).

This statistic has been used to test the null hypothesis H_o= the true proportion of respondents agreeing/ strongly agreeing with a particular issue/aspect of an integrative approach to Accounting, Economics and Finance (i.e., the true value of $\hat{P}$) is equal to ½ (i.e., 50 per cent) against the two-sided alternative hypothesis that the true proportion is different from ½. The null hypothesis is rejected at 5% level if $|z| > 1.96$. When one considers the one-sided alternative, that is, when under H_1, the true proportion >½, the null hypothesis is rejected at 0.05 level if $Z > 1.645$, and at 0.01 level if $Z > 2.32$.

This section is the outcome of the results of empirical analysis in the context of Bangladesh. This is based on the statistical test-results of eight null hypotheses.

The chi-square test has been applied to test four null hypotheses of Set-I while Z-test has been applied to test another four null hypotheses of Set-II. All the data collected from 152 respondents of exclusively Bangladesh respondents belonging to five categories of experts [PI (Potential Investors), LO (Loan Officers), UTA (University Teachers of Accounting), UTE (University Teachers of Economics) and UTF (University Teachers of Finance)] have been used to test the hypotheses. Here the objective is to study the attitudes of respondents of five different groups of experts under study in terms of their extent of agreement or disagreement with the different facets of a Case study regarding the relevance of the knowledge in Accounting and Financial concepts to Economists in the context of making investment decisions for promoting balanced economic growth and development resulting in poverty reduction. The aim is also to examine the variation in attitudes across expert-groups.

Chi-Square Test Results

Table# 6 shows that each of the four null hypotheses of Set-I (where Chi-square test of homogeneity has been applied) is accepted because in each of these cases the computed value of Chi-square is less than its critical value of 9.49 (i.e., table value) at 5% level of significance for 4 degrees of freedom. It implies that there is no significant difference of opinions amongst the respondents across five expert-groups with respect to the relevance of the knowledge in Accounting and Financial concepts to Economists in the context of making investment decisions for promoting balanced economic growth and development resulting in poverty reduction.

The test results show:

(1)Ho-1 has been accepted, implying that there occurred no systematic variation in responses across the respondent-groups under study with respect to making a choice between **M Co** and **A Co.** for investment decisions meant for balanced economic development leading, in turn ,to poverty reduction;

(2) Ho-2 has been accepted, implying that there occurred no systematic variation in responses across the respondent-groups under study with respect to the idea that knowledge in accounting and financial concepts would be most relevant to the economists for making decisions in the context of balanced economic development resulting ultimately in poverty reduction;

(3)Ho-3 has been accepted, implying that there occurred no systematic variation in responses amongst the respondent-groups under study with respect to the superiority of **Method-A** over **Method-B** for financing Project-1, keeping in view balanced economic development and poverty reduction;

(4)Ho-4 has been accepted, implying that there occurred no systematic variation in responses amongst the respondent-groups under study with respect to the superiority of **Method-C** over **Method-D** for financing Project-2 keeping in view balanced economic development and poverty reduction;

The collected data in all the above cases support the test results. In other words, an overwhelming majority of the interviewees are in favor of the test results. They are of the view that from both investors' and lenders' perspectives investment and lending decisions need to have an integrative approach to accounting, economics and finance for the purpose of balanced economic growth and development. In this regard, awareness of investors, potential investors as well as lenders is required to be increased.

Z-test Results

Table VI shows also that each of the four null hypotheses of Set-II (where **Z-test** has been applied) is rejected because the computed **Z-value** of each hypothesis is greater than its critical value (i.e., table value) of 2.32 at one-sided 1% level of significance. It implies that the proportions of respondents of all the studied expert-groups taken together agreeing with the impact resulting from different facets of a Case study regarding the relevance of the knowledge in Accounting and Financial concepts to Economists in the context of making investment decisions for promoting balanced economic growth and development resulting in poverty alleviation is significantly above 50% at one-sided 1% level of significance. In other words, a significant majority of the respondents (of each expert-group under study) agrees that making investment decisions that encompass Accounting, Economic and Financial

concepts promotes balanced economic growth and development resulting in poverty reduction

According to both statistical analysis and expert opinion survey (i.e., according to a significant majority of the interviewees under study of Bangladesh), investment and lending decisions covering Accounting, Economics and Financial concepts is most likely to have a greater effect on balanced economic development leading, in turn, to poverty alleviation.

Z-test results indicate that in case of all the null hypotheses of Set-II, the computed value of **Z** is greater than its critical value of 2.32 at 1% level of significance implying that all the hypotheses are rejected. It provides the evidence that $\hat{p}$ i.e., the proportion of interviewees of all the five-groups in Bangladesh agreeing with the impact of an integrated approach is significantly above ½ (i.e., 50%). In other words, significantly more than 50% of the interviewees of each group under study support the idea that an interfacing approach to Accounting, Economics and Finance has a significant effect on investment and lending decisions for the purpose of financing industrial projects. All this is most likely to have a significant impact on stimulating balanced economic growth as well as reducing poverty.

Summing-Up

The foregoing discussions lead to the conclusion that a significant majority of the interviewees felt that investors, potential investors as well as lenders need to make their decisions keeping in view the integrated approach to Accounting, Economic and Financial concepts. In other words, the study suggests that investment decisions should be made based on an integrated view, encompassing accounting, economic and financial aspects all together. Ignoring one or two of these considerations might result in sub-optimal decisions. While in theory there is a wide agreement about this approach, in practice many decision-makers fail to do so. As a consequence, wrong decisions are made, causing distortions in economic resource allocations, inefficiencies, and environmental harms. A fruitful way to enhance a country's socio-economic growth would be, therefore, to increase the investors' awareness of this issue. It is not enough that people know and concur with the need for an integrated approach. Potential investors should also know how to do it. This study pointed out several factors that were significant in explaining how this discrepancy between theory and practice can be reduced. There is a need to encourage investors to have a longer time-horizon; and to increase their business experience before they actually turn to investing. The compensation schemes of those who are involved in making investment decisions should be tied to the investment performance, to the extent possible. These actions will increase the efficiency of the market participants and stir the Bangladesh economy to the growth mode to realize its promising potential.

The implications of these results point to some steps that might enhance the development of entrepreneurship in Bangladesh. The study provides a few recommendations for incentive that might be created to stimulate the entrepreneurship spirit in the country. The study suggests that compensation schemes of decision-makers need to be tied, to the extent possible, to the success of investments. Another recommendation is that performance evaluations should be made with a long term view instead of short-term accomplishments. The present researcher believes that, by appropriately modifying decision-makers' behavior by offering adequate incentives, Bangladesh may be able to materialize its great potential. By means of stimulating its entrepreneurship development, Bangladesh might take advantage of its huge population and land to attain balanced economic growth and development. In this context, the knowledge in economics alone may not fully serve the purpose; knowledge in accounting and financial aspects might then play a complementary role for the purpose of making prudent decisions to achieve accelerated economic growth and development.

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Table I : Responedents of Bangladesh under Study

Category of Respondents	Sample Size
PI(Potential Investors)	31
LO(Loan Officers)	31
UTA(University Teachers of Accounting)	30
UTE(University Teachers of Economics)	30
UTF(University Teachers of Finance)	30
Total	**152**

Table II, Pannel A : Preference between Mahfujia and Ali
Percentage Distributions (out of 152 interviewees)

Preference between Mahfujia and Ali **Percentage Distributions (out of 152 interviewees)**				
Characteristics	**Survey Code**	**Project Preference**		**Weight among the interviewees**
		Mahfujia	Ali	
From a Lender's Perspective	1	80.0%	20.0%	19.7%
From an Investor's Perspective	3	92.6%	7.4%	80.3%
				100.0%
Compensation not tied to performance	1	42.1%	5.9%	48.0%
Compensation partially tied to performance	2	36.8%	3.3%	40.1%
Compensation tied to performance	3	11.2%	0.7%	11.8%
				100.0%
Short Time-Horizon	1	9.9%	2.0%	11.8%
Medium Time-Horizon	2	60.5%	3.3%	63.8%
Long Time-Horizon	3	19.7%	4.6%	24.3%
				100.0%
Not much Experience	1	17.1%	5.3%	22.4%
Medium Experience	2	65.8%	4.6%	70.4%
A Lot of Experience	3	7.2%	0.0%	7.2%
				100.0%
Sharing Responsibility on Decisions	1	15.8%	0.7%	16.4%
Sharing Partly Responsibility on Decisions	2	46.1%	5.3%	51.3%
Having Full Responsibility on Decisions	3	28.3%	3.9%	32.2%
				100.0%

Table II, Pannel B : The Percentage of those who noted the Additional Relevant Inform ation Percentage Distributions (out of 152 interviewees)

The percentage of those who noted the additional relevant inform ation Percentage Distributions (out of 152 interviewees)								
		Footnote information						Weight among the interviewees
Characteristics	Survey Code	Lease	Pension	Inves't	Envir't	Inventor y	DTL	
From a Lender's Perspective	1	16.7%	50.0%	33.3%	16.7%	10.0%	0.0%	19.7%
From an Investor's Perspective	3	2.5%	31.1%	37.7%	10.7%	13.1%	1.6%	80.3%
								100.0%
Compensation not tied to performance	1	2.0%	11.8%	12.5%	3.9%	6.6%	0.7%	48.0%
Compensation partially tied to performance	2	2.0%	20.4%	16.4%	6.6%	5.9%	0.7%	40.1%
Compensation tied to performance	3	1.3%	2.6%	7.9%	1.3%	0.0%	0.0%	11.8%
								100.0%
Short Time-Horizon	1	0.0%	1.3%	0.0%	0.0%	0.0%	0.0%	11.8%
Medium Time-Horizon	2	1.3%	25.0%	27.6%	4.6%	9.2%	1.3%	63.8%
Long Time-Horizon	3	3.9%	8.6%	9.2%	7.2%	3.3%	0.0%	24.3%
								100.0%
Not much Experience	1	4.6%	5.3%	6.6%	2.6%	2.6%	0.0%	22.4%
Medium Experience	2	0.7%	27.0%	24.3%	7.2%	9.9%	1.3%	70.4%
A Lot of Experience	3	0.0%	2.6%	5.9%	2.0%	0.0%	0.0%	7.2%
								100.0%
Sharing Responsibility on Decisions	1	2.0%	6.6%	5.3%	2.0%	0.7%	0.0%	16.4%
Sharing Partly Responsibility on Decisions	2	2.0%	21.1%	17.1%	5.9%	5.3%	0.7%	51.3%
Having Full Responsibility on Decisions	3	1.3%	7.2%	14.5%	3.9%	6.6%	0.7%	32.2%
								100.0%

Table III, Pannel A : The Statistical Significance of Characteristics Explaining the (Correct) Selection of Ali Co (Results of a Logistic Regression)

The Statistical Significance of						
Characteristics Explaining the (Correct) Selection of Ali Co.						
(Results of a Logistic Regression)						
			Number of obs		=	152
			LR chi2(5)		=	20.33
			Prob > chi2		=	0.0011
Log likelihood = -38.808082			Pseudo R2		=	0.2075
	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
LENDER v.s. INVESTOR	-1.07077	0.38157	-2.81	0.005	-1.818632	-0.32291
COMPENSATION	-0.59071	0.543728	-1.09	0.277	-1.656393	0.474982
TIME-HORIZON	0.167373	0.502203	0.33	0.739	-0.8169264	1.151673
EXPERIENCE	-1.84718	0.62477	-2.96	0.003	-3.071709	-0.62266
RESPONSIBILITY	1.106868	0.493419	2.24	0.025	0.1397838	2.073952
constant	1.561043	2.278653	0.69	0.493	-2.905035	6.027121

Table III, Pannel B : The Statistical Significance of Characteristics Explaining Mentioning the Lease Item (Results of a Logistic Regression)

The Statistical Significance of						
Characteristics Explaining Mentioning the Lease Item						
(Results of a Logistic Regression)						
			Number of obs		=	152
			LR chi2(5)		=	36.44
			Prob > chi2		=	0
Log likelihood = -13.12084			Pseudo R2		=	0.5814
	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
LENDER v.s. INVESTOR	-1.541	0.78168	-1.97	0.049	-3.073067	-0.00894
COMPENSATION	2.022032	1.22211	1.65	0.098	-0.3732598	4.417324
TIME-HORIZON	2.468355	1.272685	1.94	0.052	-0.0260621	4.962772
EXPERIENCE	-5.32411	1.923038	-2.77	0.006	-9.093197	-1.55503
RESPONSIBILITY	0.585649	0.943679	0.62	0.535	-1.263928	2.435226
constant	-2.39371	3.772685	-0.63	0.526	-9.788041	5.000613

Table III, Pannel C : The Statistical Significance of Characteristics Explaining Mentioning the Pension Item (Results of a Logistic Regression)

The Statistical Significance of						
Characteristics Explaining Mentioning the Pension Item						
(Results of a Logistic Regression)						
			Number of obs		=	152
			LR chi2(5)		=	10.93
			Prob > chi2		=	0.0527
Log likelihood = -92.821568			Pseudo R2		=	0.0556
	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
LENDER v.s. INVESTOR	-0.2536	0.219828	-1.15	0.249	-0.684455	0.177254
COMPENSATION	0.31796	0.258546	1.23	0.219	-0.1887805	0.8247
TIME-HORIZON	0.29795	0.308835	0.96	0.335	-0.3073555	0.903255
EXPERIENCE	0.533342	0.359131	1.49	0.138	-0.1705428	1.237226
RESPONSIBILITY	-0.51884	0.28061	-1.85	0.064	-1.068827	0.031146
constant	-1.0317	1.20324	-0.86	0.391	-3.390009	1.326604

Table III, Pannel D : The Statistical Significance of Characteristics Explaining Mentioning the Investment Item (Results of a Logistic Regression)

The Statistical Significance of						
Characteristics Explaining Mentioning the Investment Item						
(Results of a Logistic Regression)						
			Number of obs		=	152
			LR chi2(5)		=	21.11
			Prob > chi2		=	0.0008
Log likelihood = -89.476846			Pseudo R2		=	0.1055
	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
LENDER v.s. INVESTOR	0.217092	0.240212	0.9	0.366	-0.253714	0.687899
COMPENSATION	0.849191	0.276105	3.08	0.002	0.3080351	1.390346
TIME-HORIZON	0.735473	0.332	2.22	0.027	0.0847646	1.386181
EXPERIENCE	0.630038	0.36612	1.72	0.085	-0.0875447	1.34762
RESPONSIBILITY	0.138208	0.282387	0.49	0.625	-0.4152595	0.691676
constant	-5.58821	1.392419	-4.01	0.000	-8.3173	-2.85912

Table III, Pannel E : The Statistical Significance of Characteristics Explaining Mentioning the Environment Item (Results of a Logistic Regression)

The Statistical Significance of						
Characteristics Explaining Mentioning the Environment Item						
(Results of a Logistic Regression)						
			Number of obs		=	152
			LR chi2(5)		=	17.24
			Prob > chi2		=	0.0041
Log likelihood = -46.67078			Pseudo R2		=	0.1559
	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
LENDER v.s. INVESTOR	-0.09912	0.330612	-0.3	0.764	-0.7471117	0.548863
COMPENSATION	0.447975	0.364248	1.23	0.219	-0.2659375	1.161886
TIME-HORIZON	1.92677	0.541622	3.56	0.000	0.8652097	2.988331
EXPERIENCE	0.287176	0.44164	0.65	0.516	-0.5784228	1.152774
RESPONSIBILITY	0.180101	0.437137	0.41	0.68	-0.6766706	1.036873
constant	-7.97685	2.240669	-3.56	0.000	-12.36848	-3.58522

Table III, Pannel F : The Statistical Significance of Characteristics Explaining Mentioning the Inventory Item (Results of a Logistic Regression)

The Statistical Significance of						
Characteristics Explaining Mentioning the Inventory Method						
(Results of a Logistic Regression)						
			Number of obs		=	152
			LR chi2(5)		=	8.56
			Prob > chi2		=	0.1281
Log likelihood = -52.990972			Pseudo R2		=	0.0747
	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
LENDER v.s. INVESTOR	-0.08666	0.359949	-0.24	0.81	-0.7921494	0.618824
COMPENSATION	-0.41314	0.391133	-1.06	0.291	-1.179751	0.353463
TIME-HORIZON	0.493762	0.447367	1.1	0.27	-0.3830612	1.370586
EXPERIENCE	-0.32064	0.451915	-0.71	0.478	-1.206379	0.565095
RESPONSIBILITY	1.006429	0.439788	2.29	0.022	0.1444612	1.868397
constant	-3.87314	1.984209	-1.95	0.051	-7.76212	0.015835

Table III, Pannel G : The Statistical Significance of Characteristics Explaining Mentioning the Deferred Tax Liability Item (Results of a Logistic Regression)

The Statistical Significance of						
Characteristics Explaining Mentioning the Deferred Tax Liability Item						
(Results of a Logistic Regression)						
			Number of obs		=	122
			LR chi2(4)		=	0.67
			Prob > chi2		=	0.9552
Log likelihood = -9.8710224			Pseudo R2		=	0.0328
	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
COMPENSATION	-0.4221	1.098351	-0.38	0.701	-2.574826	1.730632
TIME-HORIZON	-0.47364	1.334632	-0.35	0.723	-3.08947	2.142193
EXPERIENCE	0.611603	1.517868	0.4	0.687	-2.363365	3.58657
RESPONSIBILITY	0.64115	1.243899	0.52	0.606	-1.796848	3.079148
constant	-5.16998	4.520884	-1.14	0.253	-14.03075	3.690788

Table III, Pannel H : The Statistical Significance of Characteristics Explaining Mentioning Any Item in the Footnotes (Results of a Logistic Regression)

The Statistical Significance of						
Characteristics Explaining Mentioning Any Item in the Footnotes						
(Results of a Logistic Regression)						
			Number of obs		=	152
			LR chi2(5)		=	24.25
			Prob > chi2		=	0.0002
Log likelihood = -84.154706			Pseudo R2		=	0.126
	Coef.	Std. Err.	z	P>|z|	[95% Conf. Interval]	
LENDER v.s. INVESTOR	0.028073	0.243844	0.12	0.908	-0.4498527	0.505998
COMPENSATION	0.627146	0.321868	1.95	0.051	-0.0037026	1.257995
TIME-HORIZON	1.037237	0.337775	3.07	0.002	0.3752106	1.699264
EXPERIENCE	0.471455	0.395093	1.19	0.233	-0.3029132	1.245824
RESPONSIBILITY	0.707882	0.296551	2.39	0.017	0.1266541	1.289111
constant	-4.85495	1.436839	-3.38	0.001	-7.671102	-2.0388

Table IV, Pannel A : Preference between Methods A and B
Percentage Distributions (out of 152 interviewees)

Percentage Distributions (Out of 152 interviewees)					
Perspective \Project		Project B	Project A	Total	
From a Lender's Perspective		10.0%	90.0%	19.7%	
From an Investor's Perspective		38.5%	61.5%	80.3%	
				100.0%	

Table IV, Pannel B : Results of a Logistic Regression

			Number of obs		=	152
			LR chi2(5)		=	12.86
			Prob > chi2		=	0.0247
Log likelihood = -89.850039			Pseudo R2		=	0.0668
	Coef.	Std. Err.	z	P>|z|	[95% Conf.	Interval]
Lender's *versus* Investor's Perspective	0.82497	0.32484	-2.54	0.011	-1.461646	-0.1883

Table V, Pannel A : Preference between Methods C and D
Percentage Distributions (out of 152 interviewees)

Percentage Distributions (Out of 152 interviewees)				
Characteristic\Project	Survey Code	Project C	Project D	Total
From a Lender's Perspective	1	56.7%	43.3%	19.7%
From an Investor's Perspective	3	67.2%	32.8%	80.3%
				100.0%
Compensation not tied to performance	1	36.2%	11.8%	48.0%
Compensation partially tied to Performance	2	24.3%	15.8%	40.1%
Compensation tied to performance	3	4.6%	7.2%	11.8%
				100.0%
Short Time-Horizon	1	11.2%	0.7%	11.8%
Medium Time-Horizon	2	40.1%	23.7%	63.8%
Long Time-Horizon	3	13.8%	10.5%	24.3%
				100.0%
Not much Experience	1	17.8%	4.6%	22.4%
Medium Experience	2	44.1%	26.3%	70.4%
A Lot of Experience	3	3.3%	3.9%	7.2%
				100.0%
Sharing Responsibility on Decisions	1	9.9%	6.6%	16.4%
Sharing Partly Responsibility on Decisions	2	30.9%	20.4%	51.3%
Having Full Responsibility on Decisions	3	24.3%	7.9%	32.2%
				100.0%

Table V, Pannel B : Results of Logistic Regression

			Number of obs		=	152
			LR chi2(5)		=	25.25
			Prob > chi2		=	0.0001
Log likelihood = -85.662356			Pseudo R2		=	0.1285
upside_D	Coef.	Std. Err.	z	P>z	[95% Conf.	Interval]
LENDER_INVESTOR	0.033247	0.23528	0.14	0.888	-0.4278936	0.494387
COMPENSATION	0.862361	0.280475	3.07	0.002	0.3126399	1.412082
TIME_HORIZON	0.791615	0.345234	2.29	0.022	0.1149695	1.468261
EXPERIENCE	0.841833	0.381426	2.21	0.027	0.094252	1.589415
RESPONSIBILITY	-0.66302	0.29809	-2.22	0.026	-1.247262	-0.07877
Constant	-4.04929	1.345629	-3.01	0.003	-6.68667	-1.4119

Table VI : Analysis of Expert views agreeing and disagreeing with the different facets of a Case study regarding the relevance of the knowledge in Accounting and Financial concepts to Economists in the context of making investment decisions for promoting balanced economic growth and development resulting in poverty reduction [together with the results of Chi-square test and Z-test (for Bangladesh)]

Different facets of a Case Study related to Accounting and Financial concepts	Responses	Frequency and percentage of Potential Investors, Loan Officers, University Teachers of Accounting, University Teachers of Economics as well as University Teachers of Finance						Chi-Square test			Z-test		
		Potential Investors (PI)	Loan Officers (LO)	University Teachers of Accounting(UTA)	University Teachers of Economics (UTE)	University Teachers of Finance (UTF)	Total N	Computed value for (c-1)x(r-1) i.e. (5-1)x(2-1)=4 degrees of freedom	Critical value a=.05	Results Re:Decision	Computed Value	Critical value	Result re: Decision
1. Making a choice between Mahfuja & Co and Ali & Co for the purpose of financing it by means of investment in shares or granting loans keeping in view their financial viability as well as contribution to economic growth & development.	Agree	23(74.19)	24(77.42)	23(76.67)	22(73.33)	21(70)	113	0.55	9.49	Accepted	6.00	2.32 at 1% level	Rejected
	Disagree	8(25.81)	7(22.58)	7(23.33)	8(26.67)	9(30)	39						
Total		31(100)	31(100)	30(100)	30(100)	30(100)	152						
2. Knowledge in Accounting and Financial Concepts is most relevant to Economists in adopting measures to stimulate balanced economic growth & development resulting in poverty reduction.	Agree	24(77.42)	25(80.65)	22(73.33)	24(46.67)	23(76.67)	118	0.60	9.49	Accepted	6.81	2.32 at 1% level	Rejected
	Disagree	7(22.58)	6(19.35)	8(26.67)	6(16.67)	7(23.33)	34						
Total		31(100)	31(100)	30(100)	30(100)	30(100)	152						
3. Method-A is better than Method-B for financing Project-1 as well as for promoting economic growth and development resulting in poverty reduction.	Agree	22(70.97)	23(74.19)	22(73.33)	21(70)	24(80)	112	0.95	9.49	Accepted	5.84	2.32 at 1% level	Rejected
	Disagree	9(29.03)	8(25.81)	8(26.67)	9(30)	6(20)	40						
Total		31(100)	31(100)	30(100)	30(100)	30(100)	152						
4. Method-C is better than Method-D for financing Project-2 as well as for promoting economic growth and development resulting in poverty reduction.	Agree	24(77.42)	23(74.19)	24(80)	22(73.33)	23(76.67)	116	0.47	9.49	Accepted	6.49	2.32 at 1% level	Rejected
	Disagree	7(22.58)	8(25.81)	6(20)	8(26.67)	7(23.33)	36						
Total		31(100)	31(100)	30(100)	30(100)	30(100)	152						