Study on the Influencing Factors of the Final Examination Results of Undergraduate's Financial Management Course

Xingqiu Wang\textsuperscript{1, a}, Jian Hao\textsuperscript{2, b}

\textsuperscript{1}School of Business, Fuyang Normal College, Anhui, 233600, China; \textsuperscript{2}School of Business, Fuyang Normal College, Anhui, 236000, China.

\textsuperscript{a}1002669613@qq.com, \textsuperscript{b}hj15655879730@163.com

Abstract. The scores of students' examinations are influenced by subjective and objective factors. It is found that the final examination results of the financial management course are influenced by the factors of "gender" and "usual achievement" under the same conditions of teachers' teaching and test contents for undergraduates majoring in Financial Management. Taking "gender" as a dummy variable, it's found that the boys' scores in the final examination are statistically 10.35 points lower than the girls', which maybe result from the differences in the learning attitude, seriousness level, and pre-test preparations between boys and girls. While the "usual achievement" is taken as the second explanation variables, each time it increases 1 point, the final test scores will increase 0.8 point, indicating that the daily accumulation is very important for the curriculums which are inclined to reason science.

Keywords: gender, usual achievement, final examination results.

1. Introduction

Financial management course is the core course for the students majoring in Financial Management; it is also an exam subject in the tests of Intermediate Accountant, Senior Accountant as well as Certified Public Accountant. After mastering the basic theory of accounting, students would get the knowledge of the methods and theoretical basis of financial decision-making by learning financial management courses, which will lay the theoretical foundation for entering companies and making financial decisions after their graduation. With the development of the economy, enterprises are facing a more complicated economic environment, so they need professional financial management personnel more than before to rationally carry out decisions of financing, investment, working capital and distribution, etc. to promote the continuous growth of enterprise value.

Under this circumstance, the study of learning outcome of students majoring in financial management and the research of the related influencing factors have great significance for further improving students’ enthusiasm in learning financial management and other specialized courses as well.

2. Literature Review

The analysis of students' examination results can be divided into two categories: one is to analyze the factors that affect students' test scores. It focuses on the causes of test anxiety and their impacts on the score. For example, Adrian Wells (1995) proposes the concept of meta-worry and explains the causes of anxiety through it. Anxiety is an important factor that influence students' cognition, memory and test scores; students with high levels of anxiety often think that they cannot keep things under their control. This is the negative meta-cognitive model of the general anxiety. Huilan Liu and Xingwang Hu (2012) believes that the negative stimulation, negative emotion and irrational cognition would lead middle school students to the test anxiety and the anxiety emotion would further influence the students’ physiological awakening, cognitive interference, and learning and test skills. As a result, the middle school students could not perform well in examinations and the grades would not good. Moreover, the unsatisfactory test scores would further aggravate their test anxiety, which was a negative reinforcement process. But by means of effective group counseling, this process can be alleviated. However, Wenguang Song and Feifei Shi (2012) have found that all the factors of meta-
worry (social evaluation, examination process, family conflict, future fate, parents' status) have significant positive correlation effects on test anxiety along with remarkable negative correlation effects on test scores.

The other one is to analyze the distribution laws of test scores based on the test results. For example, Yi Sun and Renyun Liu (2013) have found the relation between the CET-4 scores and the professional final exam scores by using multiple linear regression models, and established a mathematical model based on performance evaluation.

After going through the relevant researches on test results, we have found that there are few studies laying emphasis on the factors of gender and usual achievement. This paper conducts the study from these perspectives to explore the relation between the factors of gender and usual achievement and the final exam results of specialized courses.

3. Basic Hypothesis of the Model

The learning effects of financial management should include the mastery and real-world application of the basic knowledge of financial management courses, and ultimately the students get the practical capability to use financial theory to solve actual financial problems encountered by enterprises. However, the relevant effective data of this kind of practical ability can only be observed after long-term tracking. Therefore, this paper tentatively chooses the short-term learning effect indicator -- the final test scores of the financial management course (TESTGRADE) -- as the learning effect evaluation index to study the factors that affect this indicator.

Gender is an important figure of a person. Statistically, male and female show notable differences in terms of strength, speed, character, hobby, etc. During the process of learning and examination, boys and girls also show differences in attitude, anxiety degree, seriousness, method as well as the effort they have made. Taking this into consideration, gender is probably an influencing factor on the final examination results. So based on it, this paper puts forward the first hypothesis:

H1: gender is one of the factors that affect exam results.

With regard to the financial management curriculum which is inclined to science, careful learning, well understanding, more thinking, good memorization, repeated practice and earnest analysis of corporate financial cases are required before one could master it efficiently. When the teachers do not specify the scope of the test and the students know nothing about the test contents, it is almost impossible for them to get good final results only through memorizing few words or one or two concepts before the test. Obviously, a student's daily performance which is also known as usual achievement (USUAL) is another factor that affect his final examination results. But the question is: how can we judge the usual achievement fairly? Maybe it can be quantified through following records: performance in class such as the initiative to answer questions, attendance rate, note-taking records, completion of exercises, etc. For financial management course, a favorable usual achievement together with good accumulation during daily work, an excellent final text result can be achieved. Based on this, the second hypothesis is proposed:

H2: usual achievement is another factor affecting the final exam results.

In summary, this paper sets below binary linear regression equation:

\[ \text{TESTGRADE} = C_0 + C_1 \times \text{GENDER} + C_2 \times \text{USUAL} \]

4. Selection of Sample and Analysis of Regression Results

4.1 Selection of Sample

As for research samples, this paper chooses 125 students in total from Class 1 and Class 2 of 2015 Financial Management Major of the Business School of Fuyang Normal College, including 26 boys and 99 girls. Setting gender as the dummy variable as shown below:
As for the data-collecting period of usual achievements, this paper selects the first semester in 2016 - 2017 academic year to gather related information and determines the results by students’ participation into class and attendance rate. As for the data-collecting period of the final examination results, this paper selects the final test time of financial management of the first semester in 2016 - 2017 academic year, which is January 12th, 2017, as the cross-section data.

4.2 Results of the Least Square Regression

After the collected final examination scores, gender and usual achievements of the above 125 students were analyzed through the least square regression method by means of Eviews7.0 software, the following regression results are obtained:

\[
\text{GENDER} = \begin{cases} 
1, & \text{girls} \\
0, & \text{boys} 
\end{cases}
\]

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Dependent Variable: TESTGRADE
Method: Least Squares
Date: 01/18/17   Time: 15:56
Sample: 1 125
Included observations: 125

<table>
<thead>
<tr>
<th>Variable</th>
<th>Coefficient</th>
<th>Std. Error</th>
<th>t-Statistic</th>
<th>Prob.</th>
</tr>
</thead>
<tbody>
<tr>
<td>C</td>
<td>-5.371936</td>
<td>11.72222</td>
<td>-0.458270</td>
<td>0.6476</td>
</tr>
<tr>
<td>GENDER</td>
<td>10.34559</td>
<td>2.581971</td>
<td>4.006856</td>
<td>0.0001</td>
</tr>
<tr>
<td>USUAL</td>
<td>0.797562</td>
<td>0.148490</td>
<td>5.371163</td>
<td>0.0000</td>
</tr>
</tbody>
</table>

R-squared 0.411864  Mean dependent var 70.13600
Adjusted R-squared 0.402223  S.D. dependent var 13.28190
S.E. of regression 10.26904  Akaike info criterion 7.519851
Sum squared resid 12865.28  Schwarz criterion 7.587731
Log likelihood -466.9907  Hannan-Quinn criteria 7.547427
F-statistic 42.71758  Durbin-Watson stat 1.757782
Prob(F-statistic) 0.000000

\[
\text{TESTGRADE} = -5.37 + 10.35 \times \text{GENDER} + 0.80 \times \text{USUAL}
\]

Here, boys: \(\text{TESTGRADE} = -5.37 + 0.80 \times \text{USUAL}\)
girls: \(\text{TESTGRADE} = -5.37 + 10.35 \times 1 + 0.80 \times \text{USUAL} = 4.98 + 0.80 \times \text{USUAL}\)

### 4.3 Verification of the Model

#### 4.3.1 Practice Verification

From the results of the regression analysis, the factors of gender and usual achievement have impacts on the final test results.

First of all, the grade expectation of girls is 10.35 points higher than that of boys, which is consistent with the phenomenon that observed in reality that girls generally perform better than boys in study. This situation also explains why more girls win scholarships in universities awarding students based on test scores.

Secondly, after assigning a value to the dummy variable "gender", it is found that the final test results of boys are 5.37 points less than four-fifths of their usual achievements while that of girls are
4.98 points higher than four-fifths of girls’ usual achievements. This suggests that girls work harder than boys before the final examination, and strengthening the pre-examination review on the basis of the usual accumulation could improve the final scores.

Moreover, the usual achievement also significantly affects the final exam results. Each time it increases by 1 point, the final test scores will increase by 0.8 points, indicating that the continuous learning and accumulation are very helpful for understanding and mastering the financial management knowledge, and ultimately the final test scores could be improved. This also conforms to the process people learning some new knowledge. On the other hand, the usual grade is relatively easy to get but because of the tense atmosphere and limited time in the final test, anxiety would arise and influence the students and make it difficult for them to do their best in final test. Therefore, the change rate of final test results is only four-fifths of that of the usual achievement.

4.3.2 Statistic Inference Verification

Goodness of fit: considering that the final test results are taken as the cross-sectional data, so we adjust it. From the results of the regression analysis, it can be seen that the adjusted coefficient of determination $R^2$ is 0.4022, implying that the fitness is acceptable.

F verification: as for $H_0: C_1=C_2=0$, it can be checked in F distribution table that when degree of freedom $k-1=2, 125-3=122$, the marginal value $F_{0.05}(2,122) = 3.47$, and through the regression analysis it can be gained that $F=42.71758$. Because $F=42.71758>F_{0.05}(2122) =3.47$, so the hypothesis $C_1=C_2=0$ should be denied, which indicates that the regression equation is generally remarkable, implying that the two explanatory variables “gender” and “usual achievement” together have a significant impact on the dependent variable “final test results”.

$t$ verification: that is verification of coefficient significance. Given $\alpha=0.05$, through the $t$ distribution table it can be found that marginal value is 1.980 when the degree of freedom $n-3=125-3=122$. Owning to $t$-Statistics of two explanatory variables “gender” and “usual achievement” are 4.006856 and 5.371163 respectively, which are both greater than the marginal value 1.980, so it can be drawn that both these two explanatory variables affect the “final test results” notably.

4.3.3 DW Verification

DW Verification: refers to Durbin-Watson statistics test. Under the conditions of sample volume $n=125$, explanatory variable $k'=2$ (constant terms not included) and significance level is 0.05, we can see from the DE distribution table that the lower critical value $d_L=1.674$ while upper critical value $d_U=1.735$. From the results of the regression analysis, it can be seen that the $DW=1.757782$. Obviously, $d_U<DW<4-d_U$, and according to the judgment area of the autocorrelation of random error ($u_t$), there is no first-order correlation of random error of this model.

5. Conclusions and Suggestions

5.1 Conclusion

Theorem 1: The factor “gender” remarkably affects the final exam results:

Through the least squares regression analysis of the sample data, it is found that the factor of gender remarkably affects the final exam results. In the obtained model, the coefficient of “gender” is 10.35, implying that girls’ final exam scores are statistically 10.35 points higher than boys’, which explains the feeling of “girls’ advantages in study” we sensed. This also empirically verifies that girls do perform better on the study of financial management courses during college. But why does this happen? The probable cause is under the same circumstance, the employers are more likely to hire male employees, implying that the gender-based discrimination in employment exists among female university students. So the female students have to pay more attention on study and get better final tests results to make up their weakness in term of gender, which inevitably leads to more efforts than boys to get better usual achievements and final tests results.

Theorem 2: The correlation between “usual achievement” and final exam results reaches 0.8.
From the model, it can be seen that the coefficient of “usual achievement” is 0.8, indicating that no matter boys or girls, every time 1 point increases in usual grades, the final scores will increase by 0.8 points. So the usual grades are highly correlated with the final scores. Due to the usual grades are quantified by students’ performance in class such as the initiative to answer questions, attendance rate, note-taking records, completion of exercises, etc, it can be regarded as their long-term performance and could essentially reflect their learning outcomes. Meanwhile, the final examination is finished in only 100 minutes so 3 results may happen: the students perform their best, perform below par and perform above par. The 0.8, coefficient of “usual achievement”, further statistically means the final scores are only four-fifths of the usual grades, which is a below par performance. To some extent, this situation conforms to the proverb: one minute on the stage needs ten years practice off stage. And of course, maybe it is caused by the different requirements on usual achievement and final examination--one is easy to get while the other is relatively difficult.

5.2 Suggestions

5.2.1 To Encourage Boys to Pay More Attention to Their Study

Under the same conditions, boys’ final scores are 10.35 points lower than girls’, indicating that no matter in usual study or pre-revision, boys don’t work as hard as girls do. Therefore, strengthening boys’ understanding of the importance of their professional courses to improve their attention is an important way to change the disequilibrium of the final results caused by the factor of “gender”.

5.2.2 To Strengthen the Usual Accumulation of Specialized Knowledge

Since the final results of the financial management course are highly correlated with the usual grades, in order to get better final scores, it is necessary to pay enough attention to the accumulation of specialized courses during daily learning, including before-class preparation, careful listening, independent thinking, timely review, and a habit of continuous learning and accumulation. The addition of the usual grades will not only improve a component of the comprehensive results (usual grades account for 30%), but improve the final scores because of the high correlation between the usual grades and the final scores.

The main defect of this paper is its small amount of samples. Although in this way it can be guaranteed that the results are obtained under the same conditions of lecturing methods, judging standards and testing contents so the differences caused by subjective factors of the students can be analyzed in an objective way, the model results derived from such small samples may not have a general significance. If the samples are selected in a larger range, more independent variables and more complex models will be added due to the changes in objective conditions. This will be studied in future research.

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References


