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Exploration on CFA Curriculum Integrating into the Teaching of Finance Major in Colleges and Universities

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Abstract: Due to the impact of the global economic downturn and the COVID-19, the employment competition of financial college students is fierce. This paper analyzes the three benefits of integrating CFA into financial teaching. The integration of CFA into college finance teaching can enable students to connect their knowledge with the financial market more closely. The integration of CFA into college finance teaching can improve students' comprehensive analysis ability. The integration of CFA into college finance teaching can enhance students' competitiveness in the job market. Teachers can integrate CFA into college finance teaching in two ways. In addition to the explanation of basic concepts, teachers can also introduce the application of CFA in the financial field when teaching professional basic courses. Teachers can add some CFA exercises or replace some common exercises with CFA exercises. College teachers can add some important concepts and formulas that are available in CFA textbooks but not in college professional textbooks.

1. Introduction

According to the statistics of the Ministry of Education, the number of college graduates will reach a new high of 10.76 million in 2022, including more than 1 million new students majoring in finance. According to the data of previous years, there are only about 150000 jobs available in the national financial industry every year, and the competition for jobs is extremely fierce. Similarly, according to the data from the Ministry of Education, the number of college graduates in 2023 is expected to reach 11.58 million, an increase of 820000 year on year. In addition to the high inflation in Europe and the United States and the decline in external demand brought about by the economic recession, the recruitment posts of financial enterprises may further shrink, and this situation of job shortage in the financial industry will become increasingly fierce in 2023. With this notice, along with the digital transformation of traditional financial industries such as banks, securities and funds, the domestic financial science and technology talent gap has exceeded 1.5 million, and business analysis, financial data analysis and other research and development and technical personnel are extremely scarce. Colleges and universities should take into account the needs of financial enterprises in the training of financial professionals, strengthen targeted talent training, and provide urgently needed talents for employers.

Chartered financial analysts represent the highest level of the global investment industry and are subject to the highest ethical standards. CFA (Chartered Financial Analyst) is the professional

qualification certification of chartered financial analysts established by the American Investment Management and Research Association in 1963. The vocational examination is held twice a year. It is one of the largest vocational examinations in the world and a professional title widely recognized by the world's securities investment and management circles. Therefore, it is very necessary for colleges and universities to integrate the content of CFA into the teaching of finance.

Some scholars analyzed the benefits of CFA learning. Huang Xin, Hu Yan, Liu Xiaoyu and Wu Weiting believe that CFA talents are in short supply. CFA learning can broaden students' horizons and improve their professional application ability and professional ethics [1-4]. Yang Nana analyzed the operation of the CFA innovation experimental class of Guangzhou Business School, and believed that CFA learning can cultivate comprehensive financial talents with systematic financial knowledge [5]. Some scholars analyzed the specific application of CFA in curriculum teaching. Xu Danyang analyzed the application of CFA in the teaching of International Finance [6]. Chang Jin, Jin Su, Weng Chen and Yang Lu also discussed the role model of CFA courses in the training of high-end applied financial talents [7-10]. To sum up, the existing literature lacks the research on the mode of CFA curriculum specifically integrated into the basic course teaching of finance, which is the key issue to be studied in this paper.

2. The Benefits of CFA Curriculum Integrating into the Teaching of Finance Major in Colleges and Universities

First of all, the integration of CFA curriculum into college finance teaching can enable students to connect their knowledge with the financial market more closely. In the part of measurement of concentration trend, statistics textbooks and CFA textbooks both introduce averages, but CFA textbooks are closer to financial markets. Examples of the use of the textbook Statistics of the National People's Congress Edition are as follows. Nine families were randomly selected from a city, and the monthly income per capita of each family was obtained as follows. It is required to calculate the simple average of per capita monthly income of families. Examples of CFA textbooks are as follows. Suppose we want to examine the performance of selected stock index samples from 11 different countries. The following table reports the 52 week percentage change of the index sample in 1, 2 and 3 years. Using the data provided, we calculated the sample average returns of stock indexes in 11 countries each year. After introducing the solution, the textbook also summarizes. If investors are interested in the performance of stock markets in different countries and regions, they can use the average returns of these markets to compare investment results. In terms of weighted average, ordinary textbooks only introduce the general concept and calculation method of weighted average. CAF textbooks point out the application of weighted average in the financial field before introducing the basic concepts. The concept of weighted mean value appears repeatedly in portfolio analysis. In the arithmetic mean, the weight of all sample observations is equal to the factor 1/n. When dealing with portfolios, we usually need a more general concept of weighted average to allow different weights for different observations.

Second, the integration of CFA courses into the teaching of finance majors in colleges and universities can improve students' comprehensive analysis ability. CFA Level I examination is relatively basic in the CFA examination system, mainly focusing on investment tools and related basic knowledge. There are 10 subjects in the first level CFA examination, and the proportion of each subject is slightly different. Fixed equity investment accounted for 10 percent to 12 percent, derivative investment accounted for 5 percent to 8 percent, professional ethics accounted for 15 percent to 20 percent, quantitative analysis accounted for 8 percent to 12 percent, corporate issuance human rights accounted for 8 percent to 12 percent, economics accounted for 8 percent to 12 percent, financial statement analysis accounted for 13 percent to 17 percent, category investment

accounted for 5-8 percent, portfolio management accounted for 5 percent to 8 percent, equity investment accounted for 10 percent to 12 percent. On the basis of Level I, CFA Level II requires more detailed treatment of candidates, but the moral part is not different, mainly the financial part, and the requirements for candidates are more complicated. There are also 10 subjects in the CFA Level II examination. Fixed equity investment accounts for 10 percent to 15 percent, corporate issuance human rights accounts for 5 percent to 10 percent, derivatives investment accounts for 5 percent to 10 percent, alternative investment accounts for 5 percent to 10 percent, professional ethics accounts for 10 percent to 15 percent, quantitative analysis accounts for 5 percent to 10 percent, financial statement analysis accounts for 10 percent to 15 percent, equity investment accounts for 10 percent to 15 percent, portfolio management accounts for 10 percent to 15 percent, and economics accounts for 5 percent to 10 percent. CFA Level III is a comprehensive examination of CFA Level I and Level II, which focuses on the knowledge of portfolio management and requires more flexible application of candidates. There are only 7 subjects in the CFA Level 3 examination. The weight of economics accounts for 5 percent to 10 percent, the weight of equity investment accounts for 10 percent to 15 percent, the weight of professional ethics accounts for 10 percent to 15 percent, the weight of alternative investment accounts for 5 percent to 10 percent, the weight of fixed equity investment accounts for 15 percent to 20 percent, the weight of derivative investment accounts for 5 percent to 10 percent, and the weight of portfolio management accounts for 35 percent to 40 percent.

Finally, the integration of CFA curriculum into college finance teaching can enhance students' competitiveness in the job market. CFA is the most stringent and valuable qualification in the global investment industry, and is praised by employers in the global financial industry as "the first global financial examination" and "the ticket to Wall Street". Students have passed the CFA level I, and their employment directions include corporate accounting, assistant accounting managers in the four major accounting firms, investment managers, fund analysts, investment product analysts and junior stock research analysts. The students have passed CFA Level II, and their employment orientation includes senior audit project managers in the "Big Four", product controllers in the American Investment Bank and analysts in the American boutique investment bank. The students have passed the CFA Level III and the license holder, and their employment directions include portfolio managers, researchers, investment bank analysts, risk control managers, corporate financial analysts, account managers, financial advisers, and investment managers. CFA not only includes a complete financial knowledge system, but also involves machine learning, artificial intelligence and other scientific and technological knowledge. This kind of financial+scientific and technological talents is more competitive in the increasingly crowded financial workplace. At present, whether it is the nine major investment banks abroad or the six major state-owned commercial banks, securities companies and fund companies in China, their core positions clearly require that "holding CFA certificates is preferred".

3. Ways to Integrate CFA Curriculum into the Teaching of Finance Major in Colleges and Universities

There are three ways to integrate CFA into the teaching of finance major in colleges and universities.

First of all, when teachers teach professional basic courses, in addition to the explanation of basic concepts, they can also add the introduction of financial applications in CFA courses. For example, when introducing quantiles, statistics teachers can increase the explanation of quantiles in investment practice. Investment analysts use quantiles every day to rank performance - for example, portfolio performance. The performance of investment managers is usually described in terms of

percentile or quartile decline in their performance relative to that of their peer manager group. For example, Morningstar Investment Fund's star ranking relates the number of stars to the percentile of their performance relative to similar style investment funds. Another key use of quantiles is in investment research. For example, analysts often refer to companies whose returns are lower than the cut-off point of the 10th percentile as the tenths of bottom returns. The data is divided into quantiles according to certain characteristics, so that analysts can evaluate the impact of the characteristics on the quantity of interest. For example, empirical financial research usually ranks companies according to the market value of their shares, and then divides them into decimals. The first ten digits include the portfolio of the company with the smallest market capitalization, and one tenth includes the company with the largest market capitalization. Ranking companies by tenths allows analysts to compare the performance of small and large companies.

Secondly, when teaching professional basic courses, teachers can add some CFA exercises or replace some common exercises with CFA exercises. For example, when introducing linear regression with one variable, econometrics teachers can supplement CFA exercises. An analyst is studying the relationship between corporate earnings growth and stock returns. Specifically, she is interested in whether the earnings correction will affect the stock price return in the same period. She collected the revised EPS data of 100 companies, as well as the monthly stock return data over the five-year period. What are the dependent and independent variables in her model? This is a concept question, which helps students distinguish between dependent variable and independent variable. In addition, you can also add calculation questions. An analyst is studying the relationship between a company's net profit margin and R&D expenditure. He calculated the ratio of R&D expenditure to revenue and net profit margin of 8 companies based on industry data. Specifically, he wants to explain the change in the net profit margin he observed by using the changes he observed in the company's R&D expenditure. What is the slope coefficient of this simple linear regression model? What is the intercept of this regression model? How is the estimated linear regression model represented? What is the pairwise correlation between NPM and RDR?

Finally, for the important concepts and formulas appearing in the CFA textbook, but the corresponding content is missing in the university textbook, university teachers need to supplement the curriculum teaching content in time.

For example, in the course of financial engineering, the CFA textbook classifies the derivatives market at the beginning, but most textbooks lack corresponding introduction. The derivatives market includes the exchange-traded derivatives market and the over-the-counter market. The exchange traded derivatives market is also known as the floor market. The exchange-traded derivatives market has four characteristics. Standardized contracts, lower transaction costs and better market liquidity. The exchange plays the role of central counterparty and has no default risk. The securities regulatory authority will strictly supervise various activities of securities trading. Trading information such as market transaction price and transaction volume is transparent to all traders. The OTC market also has four characteristics. The contract in the OTC market is freely agreed by both parties, with higher flexibility and better privacy. There is no fixed trading place in the OTC market, the buyers and sellers lack in-depth understanding, there is no margin system, and the risk of default is high. The over-the-counter market is more loosely managed, the trading market is decentralized, lacks unified organization and management, and the trading efficiency is less than that of the exchange-traded derivatives market. The over-the-counter market transactions are not transparent, and no one can obtain the details of the contract from the public platform. Obviously, if college teachers add these contents to teaching, it will help students better understand the financial market.

4. Conclusions

To sum up, there are three benefits for CFA courses to be integrated into college financial teaching. The integration of CFA courses into the teaching of finance majors in colleges and universities can enable students to connect their knowledge with the financial market more closely. The integration of CFA curriculum into college finance teaching can improve students' comprehensive analysis ability. The integration of CFA curriculum into college finance teaching can enhance students' competitiveness in the job market. Teachers can integrate CFA curriculum into the teaching of finance major in colleges and universities in many ways. In addition to the explanation of basic concepts, teachers can also introduce the application of CFA in the financial field when teaching professional basic courses. Teachers can add some CFA exercises or replace some common exercises with CFA exercises. College teachers can add some important concepts and formulas that are available in CFA textbooks but not in college professional textbooks.

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