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# Chief Financial Officer Educational Background and Company Performance

**Anisa Rahmawati[1], and Raden Roro Widya Ningtyas Soeprajitno[2]✉**

[1, 2]Accounting Department, Faculty of Economics and Business, Airlangga University
Jalan Airlangga No. 4 – 6 Surabaya, Jawa Timur, Indonesia

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**Abstract**
**Purpose:** This study aims to examine the relationship between the Chief Financial Officer (CFO) education background and company performance. We identified educational background levels, namely bachelor, master, doctorate, and certification.
**Method:** This study uses 1176 sample companies listed on the Indonesia Stock Exchange IDX in 2014-2017. This study uses purposing sampling and testing Ordinary Least Square Regression STATA 14.
**Finding:** This study found that companies with only a CFO with a specific educational background of CFO is significantly impact on company performance. Master's educational experience and certification show a negative relationship while the rest are unrelated to company performance, but bachelor and doctoral degree show otherwise.
**Novelty:** This research contributes empirically to the development of the literature. It practically provides consideration for stakeholders to pay more attention to the educational qualifications of CFOs regarding the company's spatial reporting policies.

**Keywords:** *CFO, Educational Background, and Company Performance.*

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## INTRODUCTION

A study conducted by Calori et al., (1994) convinced that the CFO is the strategic decision-making position of the CEO, who is represented by the financial condition as a pioneer company. The CFO is fully responsible for various economic conditions by taking on a more prominent role than the CEO (Finkelstein & Hambrick, 1990). The ability of CFOs to override controls that are declared effective (J. P. Carpenter et al., 2004; Hambrick & Mason, 1984; Kemp, 2011) to provide value, cognition, and executive perceptions of predicting their performance choices. (Matsunaga & Yeung, 2008) underlines the role of the CFO in that companies can earn more accrual-based income with the use of conservative accounting policies.

An analytical study of economic management proves that differences arise from personal characteristics, conservatism efforts, skills, communicativeness, risk aversion, and decision-making influenced by CFO perceptions (Sun et al., 2019). (Birkett, 2002) developed a competency framework for use by financial managers in a prudent set of criteria where the required capacity is

author (✉)
E-mail: raden.roro.widya-2016@feb.unair.ac.id

based on experience and competence. (Campello et al., 2010; Graham & Harvey, 2001; Simon & Moore Johnson, 2015) for example, explain that educational background will affect perceptions, ways of thinking, abilities, and decisions. In this case, the company should be helped by the competence of the CFO and benefit from better company performance.

CFOs with higher education enable better information management and action on corporate change. (Bantel & Jackson, 1989; Wiersema & Bantel, 1992). (Stone & Tudor, 2005) revealed that the CEO's professional educational background and corporate policy setting were correlated. If drawn to the position of CFO, higher education background will also have a good impact on company performance, monitoring mechanisms (Agrawal & Chadha, 2005), higher profits (Bots et al., 2009).Therefore, we agree that educational background is considered an essential qualification that contributes and is interesting to research.

This study aims to find out more about which level of educational background is related to company performance. This study identified academic levels, namely bachelor, master, doctorate, and certification. We used a sample of 1176 companies listed on the Indonesia Stock Exchange (IDX) for 2014 – 2017. This data was obtained from the profile history of the directors, in this case, the CFO or finance director. It is stated in the Indonesian Financial Services Authority in Regulation Number 29 / POJK.04 / 2016 regarding the information included in the Annual Report of the Listed Company. In measuring firm performance, this study follows previous studies from (Bedard et al., 2014; Chen, 2014; Dalziel et al., 2011; Darmadi, 2013; Faleye et al., 2018; Lin et al., 2011; Purkayastha et al., 2018). Company performance was analyzed using firm size (FIRMSIZE), firm leverage (LEV), current ratio (CUR_RAT), return on assets (ROA), TOBINSQ to represent the company's performance.

This study indicates that the educational background of certain CFOs, Masters, and Certifications is negatively related to company performance. At the same time, the rest did not show any relationship between the two. This study is expected to enrich the existing literature by explicitly discussing CFOs and the attainment of CFO educational qualifications. So the results are expected to provide an overview of the company's need for specific academic qualifications from the CFO that can support better company performance. This research also contributes to giving practical considerations for stakeholders to pay attention to the educational background of CFOs related to perceptions, policies, and strategic decisions in the company, for example, in financial reports.

In the following discussion, this research will be structured as follows; section 2 discusses the literature study, which contains the theory and the basis of the literature for this research; section 3 discusses the research methodology; section 4 contains the results and discussion, and section 5 includes the conclusions obtained in this study.

## LITERATURE REVIEW

### Upper Echelon Theory

This theory views top managers as strategic decision-makers in organizations so that their strategic decisions will directly affect company performance. The strategic decision itself reflects the values, cognition, and knowledge of top managers (Hambrick & Mason, 1984). Another study by (Knight et al., 1999) also argues that the basis of upper echelon theory is the notion of visual experience i.e. characteristics of top managers are systematically related to the psychological profile and cognitive elements of executive orientation. The features of top managers, such as age, experience, education, social background, financial background, and the social group to which top managers belong, intervene in their thoughts and actions while dealing with and understanding problems that arise. The characteristics of top managers determine their ability to interpret complex situations and resolve them. Several previous studies have linked the attributes to the company's strategic profile and performance (Finkelstein & Hambrick, 1990; Haleblian & Finkelstein, 1993).

Regarding the characteristics of top managers in terms of educational background, (Hambrick & Mason, 1984) found that companies whose top managers have higher educational attainment are more complex in terms of administration. Mitchell (2000) has agreed that the higher educational attainment of top managers is related to their frame of mind and behavior. Education level is often used as a measurable characteristic that can predict the strategic behavior of top managers (Hambrick & Mason, 1984). In particular, (Carpenter et al., 2004; Papadakis & Barwise, 2002) found that the education level of top managers did influence how they reached decisions. In addition, (Hambrick, 2007) also argues that characteristics such as educational background can explain company performance according to the premise of bounded rationality previously studied by (Cyert & March, 1963).

This argument is not only supported by (Hambrick, 2007), several researchers have also agreed with the idea that top managers' involvement in strategic decisions has a direct impact on firm performance. As previously elaborated, the educational background of top managers influences their strategic decisions, thus making them more responsive in the face of a volatile global economy. The process during educational attainment contributes to improving the quality of top managers and influencing their performance. In a competitive world, their individual quality and performance are linked to achieving organizational goals. Thus, they also play an essential role in determining its ability to maintain business.

**Professional Accountant Education Background on Company Performance**

Previous research explained that the quality of CFOs is influenced by educational background, which affects their performance in achieving company performance. CFOs with higher education enable better information management and action on corporate change (Bantel & Jackson, 1989; Wiersema & Bantel, 1992). Educational background has also been shown to be associated with strategic decision making such as compensation decisions (Hitt & Barr, 1989), evaluation of acquisition candidates (Hitt & Tyler, 1991), R&D expenditures (Dalziel et al., 2011), corporate investment as well as general decision making. (Donkers et al., 2001; Frank & Goyal, 2007), corporate policy (Stone & Tudor, 2005). Therefore, the following hypotheses in this study were made without direction by considering the possible relationships formed.

**$H_1$: CFO's educational background is related to the company's performance**

(Agrawal & Chadha, 2005) at least shows that the accounting profession can improve the company's monitoring mechanism. Furthermore, (Bots et al., 2009) found that CFOs with higher levels of education were associated with increased earnings. However, background characteristics can also influence more increased conservatism efforts in decision-making. So that CFOs with specific educational backgrounds will tend to limit their activities. Thus, CFOs who have an above-average educational experience are limited and at the same time encounter investor pressure which results in sub-optimal or negative performance.

CFOs with a bachelor's degree will have competence and open ownership even if the experience has not been fulfilled to the fullest. However, this perception can be used in the process where undergraduate CFOs are considered to display good characteristics that will shape the way of thinking and behaving in producing better financial statements. Therefore, the following hypotheses in this study were made without direction by considering the possible relationships formed.

**$H_2$: CFO with a Master's education background is related to company performance.**

From the assumptions that we have previously described, we assume that basically a higher glass will provide better results and contributions. We also believe that prudence in decision making will also be possible by the company and can have a negative impact on the Company. In this study, the case that we develop is the company's performance as a proxy for the return on assets. Therefore, we did not eliminate the potential relationship among others due to ambiguity and then hypothesized as follows.

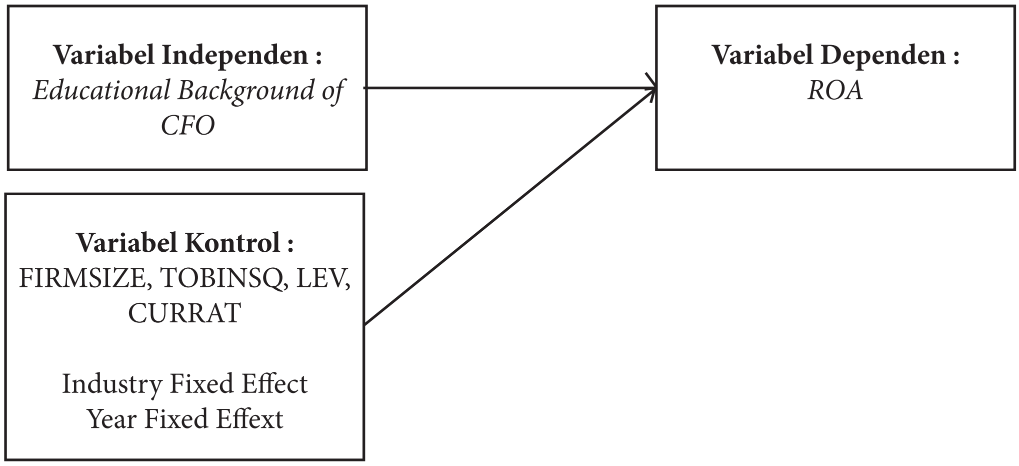


**Image 1.** Conceptual Framework

**$H_3$: CFO with a Doctoral education background is related to company performance.**

And finally, CFOs with certain certifications will add color to the analysis of this research. First, we assume that certified CFOs will be more mature in knowledge and experience so that the results received by the company will be more significant. Second, under the same assumption, a certified CFO will still have the potential to bring good and bad things to the company because there are innate characteristics and thoughts that are influenced by the education. In the end, we hypothesize into the last hypothesis as follows.

**$H_4$: CFO with Certification related to company performance.**

## METHODS

The initial population used in this study was 2524 companies consisting of all companies listed on the Indonesia Stock Exchange (IDX) for 2014-2017. This data is obtained from the Annual Report published on the IDX web and financial data obtained from the OSIRIS database. In addition, this study excludes the financial and banking sector (SIC 6) because of the different characteristics with other industries and excludes missing data. Finally, the final sample used in this study was 1176 observational data.

In this study, we used several variables. The dependent variable is the company's performance as a proxy for Return on Assets (ROA) obtained from Net Income divided by Assets. The independent variables are proxied by EduS1 represent bachelor education, EduS2 represent master education, EduS3 represent doctoral education, and EduCERT represent CFO with certification. We base this measurement on a binary variable, namely a dummy one if the CFO has the required background and 0 otherwise. Finally, the control variables in this study are represented by firm size (FIRMSIZE). Those are the natural logarithm of total assets, TOBINSQ obtained from market value divided by replacement value of assets, leverage (LEV) obtained from total debt divided by total assets, current ratio (CURRAT) obtained from existing assets divided by current liabilities. The selection of control variables followes by (Bedard et al., 2014; Chen, 2014; Dalziel et al., 2011; Darmadi, 2013; Faleye et al., 2018; Lin et al., 2011; Purkayastha et al., 2018) and adjusted to the characteristics that can explain the dependent variable in this study. For detail, we add the existing framework of thought in this research.

This study uses panel data or a combination of cross sectional data with time series data, where the classical assumption test is not tested as described in Nachowi and Usman (2006), assuming this type of data is free from various data problems. We used STATA 14 software to examine the relationship between CFO background education and firm performance. This research uses OLS regression involving Industry and Year Fixed Effect , so that the research equation model is obtained as follows:

$$ROA_{i,t} = \alpha + \beta_1 EduS1_{i,t} + \beta_2 EduS2_{i,t} + \beta_3 EduS3_{i,t} + \beta_4 EduCERT_{i,t} + \beta_5 FIRMSIZE_{i,t} + \beta_6 TOBINSQ_{i,t} + \beta_7 LEV_{i,t} + \beta_8 CURRAT_{i,t} + \text{Industry Fixed Effect} + \text{Year Fixed Fixed Effect Effect} + \varepsilon \quad (1)$$

Where:

| | |
|---|---|
| α | : Constanta |
| β | : Beta |
| i | : Company Observation i |
| t | : Year observation |
| EduS1 | : CFO with Bachelor Education |
| EduS2 | : CFO with Master Education |
| EduS3 | : CFO with Doctoral Education |
| EduCERT | : CFO with Certification |
| FIRMSIZE | : Firm Size |
| TOBINSQ | : TOBINSQ |
| LEV | : Leverage |
| CURRAT | : Current Ratio |
| ε | : Error |

## RESULTS AND DISCUSSION

Based on Table 1, the distribution of the 1176 samples taken showed several variations. For example, there are more CFOs with Bachelor's education backgrounds than Masters and Doctoral backgrounds, while CFOs with special certifications are more than CFOs with Doctoral graduates. These results indicate that at least half of the Undergraduate CFOs continue their education to the Master's level.

Table 2. displays descriptive statistics of the entire sample in this study. The company's

**Table 1.** Sample Distribution by Educational Background

| Level 1 | Frequency | Percent |
|---|---|---|
| Bachelor | 994 | 85% |
| Non Bachelor | 182 | 15% |
| Total | 1176 | |
| | | |
| Level 2 | Frequency | Percent |
| Master | 421 | 36% |
| Non Master | 755 | 64% |
| Total | 1176 | |
| | | |
| Level 3 | Frequency | Percent |
| Doctoral | 52 | 4% |
| Non-Doctoral | 1124 | 96% |
| Total | 1176 | |
| | | |
| EduCERT | Frequency | Percent |
| Certification | 79 | 7% |
| Non-Certification | 1097 | 93% |
| Total | 1176 | |

**Table 2.**

| | Mean | Median | Minimum | Maximum |
|---|---|---|---|---|
| ROA | 0.810 | 0.593 | 0.000 | 9.165 |
| EduS1 | 0.845 | 1.000 | 0.000 | 1.000 |
| EduS2 | 0.358 | 0.000 | 0.000 | 1.000 |
| EduS3 | 0.044 | 0.000 | 0.000 | 1.000 |
| EduCERT | 0.067 | 0.000 | 0.000 | 1.000 |
| FIRMSIZE | 3.046 | 3.056 | 2.759 | 3.216 |
| TOBINSQ | 0.551 | 0.491 | 0.025 | 4.204 |
| LEV | 0.549 | 0.490 | 0.024 | 4.204 |
| CURRAT | 1.447 | 0.885 | 0.040 | 22.015 |

Note: This table shows descriptive statistics of all the variables used in this study. The research sample used was 1176 companies in 2014-2017.

performance as proxied by ROA shows a mean of 0.810 with a maximum of 9.165 and a minimum of 0.00. This indicates that the sample companies used have positive performance and are in low performance. CFO with Bachelor background is much higher than Master and Doctoral with mean 0.845, 0.358, 0.044, respectively.

**Table 3.** Pearson Correlation

| | | [1] | [2] | [3] | [4] |
|---|---|---|---|---|---|
| [1] | ROA | 1.000 | | | |
| [2] | EduS1 | -0.011 | 1.000 | | |
| | | (0.716) | | | |
| [3] | EduS2 | -0.076 *** | 0.109 *** | 1.000 | |
| | | (0.009) | (0.000) | | |
| [4] | EduS3 | -0.037 | 0.092 *** | 0.236 *** | 1.000 |
| | | (0.208) | (0.002) | (0.000) | |
| [5] | EduCERT | -0.068 ** | 0.068 ** | -0.016 | -0.058 ** |
| | | (0.019) | (0.020) | (0.580) | (0.048) |
| [6] | FIRMSIZE | 0.328 *** | 0.036 | 0.071 ** | -0.099 *** |
| | | (0.000) | (0.215) | (0.014) | (0.001) |
| [7] | TOBINSQ | 0.155 *** | 0.019 | 0.020 | 0.157 *** |
| | | (0.000) | (0.522) | (0.490) | (0.000) |
| [8] | LEV | 0.154 *** | 0.019 | 0.021 | 0.157 *** |
| | | (0.000) | (0.521) | (0.482) | (0.000) |
| [9] | CURRAT | -0.040 | 0.037 | -0.071 ** | 0.021 |
| | | (0.174) | (0.203) | (0.015) | (0.466) |
| | | [5] | [6] | [7] | [8] |
| [5] | EduCERT | 1.000 | | | |
| [6] | FIRMSIZE | 0.055 * | 1.000 | | |
| | | (0.058) | | | |
| [7] | TOBINSQ | -0.013 | -0.013 | 1.000 | |
| | | (0.651) | (0.658) | | |
| [8] | LEV | -0.013 | -0.013 | 1.000 *** | 1.000 |
| | | (0.654) | (0.663) | (0.000) | |
| [9] | CURRAT | -0.033 | -0.300 *** | -0.274 *** | -0.274 *** |
| | | (0.257) | (0.000) | (0.000) | (0.000) |

**Table 4. R**egression Result

| | (EduS1) | (EduS2) | (EduS3) | (EduCERT) |
|---|---|---|---|---|
| | ROA | ROA | ROA | ROA |
| Education CFO | -0.016 | -0.074 * | -0.044 | -0.232 *** |
| | (-0.26) | (-1.68) | (-0.42) | (-2.81) |
| FIRM_SIZE | 3,006 *** | 3032 *** | 2.992 *** | 3.028 *** |
| | (12.47) | (12.61) | (12.42) | (12.65) |
| TOBINSQ | 52.788 *** | 52.325 *** | 52.667 *** | 52.667 *** |
| | (8.88) | (8.80) | (8.85) | (8.89) |
| LEV | -52532 *** | -52.069 *** | -52.409 *** | -52.414 *** |
| | (-8.83) | (-8.76) | (-8.80) | (-8.84) |
| CUR_RAT | 0.022 ** | 0.022 ** | 0.022 ** | 0.021 ** |
| | (2.50) | (2.46) | (2.51) | (2.44) |
| Industry Fixed Effect | Included | Included | Included | Included |
| Year Fixed Effect | Included | Included | Included | Included |
| _cons | -8.839 *** | -8.897 *** | -8.807 *** | -8.891 *** |
| | (-11.86) | (-11.95) | (-11.78) | (-11.97) |
| r2 | 0.291 | 0.293 | 0.291 | 0.296 |
| r2_a | 0.282 | 0.284 | 0.282 | 0.287 |
| N | 1176 | 1176 | 1176 | 1176 |

t statistics in parentheses * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3. Pearson Correlation examines the correlation between one variable and another. Our findings show that CFOs with a master's background and special certifications negatively correlate with a firm performance at 1% and 5%, respectively. The results are consistent with our prediction that CFO, to some extent, background CFO is negatively associated with firm performance. Other variables, such as FIRMSIZE, TOBINSQ, and LEV are positively correlated with ROA with a significance level of 1%.

Table 4 displays regression testing to answer the hypothesis of this study. In this test, the test model involves control variables and industry and year fixed effects. Although the results vary, not all CFO educational backgrounds show significance. There is no relationship between company performance at the undergraduate level (EduS1) and the doctoral level (EduS3); hypotheses 1 and 3 are rejected. It has become essential that a CFO must have at the undergraduate education level with adequate financial duties or expertise. While at the doctoral level, we do not see the need for many CFOs to reach that level. As we understand, doctoral may be selected to fulfill academic positions related to their career and not require their expertise. Therefore, CFO with doctoral-level education is not associated with company performance.

Furthermore, CFO education at the Master's level (EduS2) showed significance at the level of 10% (t=-1.68, r2=0.293) and negative (coeff=-0.074), so hypothesis 2 was accepted. As a result, CFOs with a master's education background were negatively associated with firm performance. At this level, the CFO is considered to have experience and abilities above average, so they can cope with investor pressure and act more carefully. This caution is what causes the company's negative performance.

Hypothesis 4 shows that CFO with certification (EduCERT) is significantly related at the 1% level (t=-4.49, r2=0.296) and negatively (coeff=-0.232) with firm performance. At this level, certification is considered superior and shows specific competencies that are more difficult to achieve and higher abilities. Thus, the question is why CFOs with credentials are associated with poorer performance. This can be explained by the Upper Echelon theory, where higher education

**Table 5.** Robustness Check

| | (EduS1) | (EduS2) | (EduS3) | (EduCERT) |
|---|---|---|---|---|
| | ROA | ROA | ROA | ROA |
| Education CFO | -0.016 | -0.074 * | -0.044 | -0.232 *** |
| | (-0.26) | (-1.68) | (-0.42) | (-2.81) |
| FIRM_SIZE | 3.006 *** | 3032 *** | 2.992 *** | 3.028 *** |
| | (12.47) | (12.61) | (12.42) | (12.65) |
| TOBINSQ | 52.788 *** | 52.325 *** | 52.667 *** | 52.667 *** |
| | (8.88) | (8.80) | (8.85) | (8.89) |
| LEV | -52532 *** | -52.069 *** | -52.409 *** | -52.414 *** |
| | (-8.83) | (-8.76) | (-8.80) | (-8.84) |
| CUR_RAT | 0.022 ** | 0.022 ** | 0.022 ** | 0.021 ** |
| | (2.50) | (2.46) | (2.51) | (2.44) |
| Industry Fixed Effect | Included | Included | Included | Included |
| Year Fixed Effect | Included | Included | Included | Included |
| _cons | -8.839 *** | -8.897 *** | -8.807 *** | -8.891 *** |
| | (-11.86) | (-11.95) | (-11.78) | (-11.97) |
| r2 | 0.291 | 0.293 | 0.291 | 0.296 |
| r2_a | 0.282 | 0.284 | 0.282 | 0.287 |
| *N* | 1176 | 1176 | 1176 | 1176 |

*t* statistics in parentheses $^{*}p < 0.1$, $^{**}p < 0.05$, $^{***}p < 0.01$

will tend to be more complex in administration, decisions, and behavior that are more careful. This behavior then actually gives the company a worse performance.

***Discussion***

Although other studies have shown that better performance goes hand in hand with education. Our research found that CFOs with a Master's education background (EduS2) and having a certification (EduCERT) lower company performance. Our assumption is that CFOs with this background have above average experience and abilities and are under pressure to demonstrate their abilities. Often CFOs with more educational backgrounds will adopt conservative policies with less risk. The more conservative and prudent actions of the CFO then result in limited or worse performance results.

For the same reason, certification makes the owner have a different value because basically certification has a level that is more difficult to achieve. CFOs with certified capabilities bringing different qualities, have encountered an undeniable challenge. On the other hand, why do certified CFOs bring negative conditions to their company's performance. We agree that certified CFOs have a different focus and a more cautious policy. Our optimism is that certified CFOs have different views regarding the strategic policies implemented, especially in seeing the potential that can be excelled in the company.

***Robustness Test***

Table 5. Displays the robustness test results to test and validate our main test results in the previous table. We also involve Industry and Year fixed Effects because it considers the characteristics of each sample company. Our findings show results that are not much different. Only EduS2 and EduCERT were significantly related (t=-1.83, t=-4.49) and positively associated with firm performance. The rest show no relationship between the level of education and company

performance.

## CONCLUSION

This study examines the relationship between CFO academic qualifications and firm performance. Using a sample of companies listed on the Indonesia Stock Exchange in 2014 – 2017, varying results were obtained. CFOs with a Master's background and CFOs with special certifications have a significant and negative relationship with company performance. The rest, CFOs with undergraduate and doctoral backgrounds, show no important relationship with company performance.

This study recognizes the limitations of measuring CFO background. Future research should consider measuring by scoring or the reputation of the education. Future research can also evaluate other possible variables related to company performance, such as gender, nationality, and age. This research contributes empirically by developing the existing literature regarding the relationship between CFO and company performance. This study also provides an overview of the characteristics of education at a certain level that can be detrimental to the company, related to strategic decisions and company management. Practically, this research considers stakeholders to take part in considering their CFO educational background where this is related to the company's financial reporting policies.

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