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Accounting education and the perception of the concept of profit: an exploratory study

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Abstract

Objective: The study's objective was to verify whether the understanding of the concept of profit and value expressed by individuals is associated with one's formal education in accounting.

Method: A group comparison design was adopted in this study and three samples of individuals with different levels of knowledge in accounting were compared. Other factors that possibly influence one's underlying understanding of the concept of profit were also investigated using a logistic model.

Results: The results suggest there is no significant relationship between one's understanding of the concept of profit and formal education in accounting. Nevertheless, the findings showed that being a woman might influence the way profit is understood, considering women more frequently than men, adopted an economic perspective of profit.

Contributions: These findings contribute to understanding how one's educational background is related to the learning of fundamental accounting concepts and might be useful for guiding teaching strategies and even political-pedagogical projects of Accounting Science programs.

Keywords: Profit; Accounting learning; Historical cost

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1. Introduction

The concept of profit varies between Economics and Accounting so that its understanding differs among individuals. There is much criticism of the traditional model in which profit is measured based on the concept of historical cost (Solomons, 1961; Zeff & Keller, 1973; Hopp & Leite, 1988; Guerreiro, 1989; Schipper and Vincent, 2003; Ryan, 2007). Nonetheless, as stated by Kida & Hicks (1982), the accounting profession finds strong resistance to developing and operating a concept of profit that resembles a base value as in economics. The authors conjecture that this problem may be associated with the fact that the learning of accounting conditions one to use the concept of historical cost. According to Kida & Hicks (1982), if the teaching-learning process produces such an effect, it is likely that individuals who received formal training in accounting developed a concept of profit that resembles more the idea of historical cost than that the economic concept based on current value.

This phenomenon may be associated to the fact that students in the initial stage of the Accountancy program, or attending Financial Accounting courses offered by different undergraduate and graduate programs, are usually exposed to a set of concepts that are more frequently closer to the so-called accounting profit than to the concept of profit adopted in economics. In the field of corporate accounting, for instance, one of the first widespread rules is that the effects accruing from changes in equity on the result of a given period should not be recognized before they can be objectively measured. Thus, in such circumstances, it is to be expected that students will be more inclined to accept the idea that profit corresponds to the difference between revenue realized by sales and costs than to an increase in the value associated with assets, considering the latter generally incorporates a great dose of subjectivity. In a way, even from a psychological point of view, it is more comfortable to assume that assets should be valued based on their original costs rather than on the present value of future cash flows. Certainly, the simple fact that the production of such flows may not happen according to the magnitude expected, is already a reason for an individual to favor cost over value as a criterion to measure profit.

The Perception theory argues that there is a basic relationship between an individual's cultural context and knowledge accumulated over time and the way (s)he perceives and interprets phenomena. Even though many factors influence one's perception, it is known that concepts and messages that are more congruent with one's attitudes and opinions tend to be memorized to a greater extent than otherwise (Bartlett, 1932; Santaella, 1998). Studies show that, over time, an individual's memory selects the elements that are the most significant at the expense of discordant or culturally distant ones. If alongside the most important arguments favoring a given subject, opposing arguments are also presented, the latter tend to dissipate more rapidly than the favorable ones (Papageorgis, 1963).

From this perspective, the Perception theory allows us to infer that if students attending the initial stages of an Accountancy program are encouraged to value a given concept of profit at the expense of others, in the future, they may face difficulties to understand other meanings that may also be associated to the word (PROFIT). For instance, if someone was trained to understand profit as a mere value that results from the difference between revenue obtained by sales and costs, this individual may not easily admit that profit may also mean the difference between revenues and opportunity costs. This is particularly important for professors in accounting because it suggests that it may not be sufficient to properly selecting content to be taught.

Kida & Hicks (1982) report evidence suggesting that students with no prior knowledge in accounting more frequently hold a perception of profit that resembles economic concepts than students with some training in the accounting field. Their results also indicate that, after attending a certain number of courses emphasizing the idea of historical cost as a value base, students not only learned the system but also showed differences in the meaning they assigned to certain constructs related to this system. These differences persisted even after students were exposed to courses emphasizing economic concepts of value and profit. The authors consider this as an indication that students adhere to the learning of the rules and regulations of accounting based on historical cost so strongly that they become unable to see beyond it.

Thus, the following question emerged from the preceding discussion: Does one's level of formal education in Accounting[1]) influence the perception of profit from an economic or accounting perspective? This study's objective is to test whether people with distinct levels of knowledge in accounting present different perceptions of profit. Thus, a study was developed to compare groups in which individuals were identified as having three levels of knowledge in Accounting.

The results suggest there is no difference between the groups regarding their perceptions of the concept of profit, also revealing that the accounting approach based on historical cost, predominates among the participants. These findings suggest that the introjection of the accounting concept of profit based on historical cost does not depend on one's formal knowledge of accounting. This study presents evidence though that gender may influence the way profit is understood, considering that the perception of profit from an economic perspective was significantly more frequent among women.

Discussion concerning this subject is relevant because, even though the debate on the concept of profit is old, the role of formal education in the assimilation of its meaning is seldom explored, and thus, remains unclear. In this sense, this study is intended to broaden the understanding of this specific issue, contributing to existing literature. Advancing in this agenda is even more important in a context in which fair value accounting, based on current value, is more emphasized than that based on simple and pure historical cost, as provided in international guidelines (IFRS). The use and operationalization of profit are likely to depend on how it is perceived and interpreted. For this reason, identifying how the formal educational process relates to the understanding of this and other essential accounting concepts is important to support teaching strategies Accounting professors and even political-pedagogical projects of Accountancy programs adopt.

This topic also interests the market and the academic community in general due to its practical implications associated with the use of accounting concepts. Profit measured from the perspective of accounting may be used for managerial incentive purposes, taxation, investment decision-making, performance assessment, and to establish dividend distribution policies among others, while consequences may vary depending on the conceptual basis adopted in its definition and measurement. For instance, the economic concept of profit is likely more relevant to assess performance within firms and to establish incentive contracts when considering the horizon problem (Santos, 2015). Additionally, empirical evidence suggests that forecasts of analysts are more accurate when based on fair value accounting information (Liang and Riedl, 2014).

1 "Formal knowledge" is understood here as knowledge acquired from specific academic undergraduate or graduate Accounting programs

On the other hand, accounting profit with an emphasis on historical costs seems to be more appropriate for contract purposes when the objective is to mitigate conflicts of interest between CEOs and shareholders and when there are debt contracts (Watts, 2003). Additionally, the empirical literature has discussed and documented the value-relevance of accounting information, especially profit measured according to the rule of financial accounting, based on historical cost, for the capital market (Lev, 1989; Lee, 1999; Kothari, 2001; Holthausen & Watts, 2001), a circumstance in which accounting profit is more appropriate to measure the performance of firms, as reflected in stock prices (Dechow, 1994).

The remainder of this paper is structured as follows: the elements of the Perception theory are presented in the second section, followed by a brief review of the concepts of profit and value from both the accounting and economics perspectives; the third section describes the study's method; the fourth section presents the results of the field survey; and finally, conclusions and final considerations are presented.

2. Background

2.1 Perception theory

Classified as a Semiotic theory (Santaella, 1998), perception has been defined as a process in which people overcome sensorial stimuli and develop a significant interpretation guided by knowledge, experiences, expectations and higher-order motivations (Feldman, 2015).

The Perception theory helps us understand that meaning is not a property of words as a physical element that any individual can identify, but a social construction that depends on context, cognitive references, past experiences and educational background (Ogden and Richards, 1938). Along the same lines, Berlo (1999) notes that the interpretation of a message or linguistic code is a psychological response determined by various factors, such as communicative skills, level of knowledge about some content, and about the sociocultural context an individual belongs to. Bakhtin (1997) shares this view, stating that communication and its meanings are strongly influenced by social structures. Thereby, the process in which messages are developed requires that signs and individuals be situated in a given context. To emphasize that the understanding of the word cannot be separated from the social context, the author states that there are as many meanings as contexts.

Hence, it is not surprising that the word *profit* elicits different meanings among people belonging to different groups. The opposite would be surprising. According to the Perception theory, this phenomenon is somewhat expected and should be seen as ordinary. What cannot be considered normal is that individuals receiving certain stimuli and supposedly being prepared to understand the various meanings assigned to a given linguistic code (profit) face difficulties similar to those people from other cultural contexts face.

In the Perception theory proposed by Peirce (1999), any sign, such as the word profit, for instance, can only represent something to a given interpreter if it is able of producing in one's mind something related to a given object or phenomenon. Hence, a sign can be understood as everything that fulfills the function of representing something. The correct interpretation of an object or phenomenon – in this case, the word *profit* – implies the existence of a well-established reference (thought) that is shared among the members of a given community. This relationship between sign and reference is determined, at least in part, by social and psychological factors (Coelho Neto, 1996). At this point, it is important to note that if a given sign does not "find" a properly qualified reference in an interpreter's mind, the object one seeks to represent cannot be satisfactorily understood.

Therefore, the Perception theory suggests that difficulty understanding the meaning of the word "profit" is greater among those who have not been previously prepared, especially if we consider that the monetary expression assigned to it is nothing more than an aggregate of positive and negative installments organized according to specific rules. To have a rough idea of the variety of meanings that can be assigned to the term "profit" we need to consider that, at least theoretically, such rules may go from the prosaic historical cost to more sophisticated measurement criteria that take into account a set of variables of purely economic nature.

Hendriksen and Breda (1999) consider that one of the reasons people do not always understand the concept of profit is precisely because it results from a set of rules and conventions that do not commonly correspond to phenomena from the real world. The authors explain that rules such as the accrual method, realization and comparison between revenue and expenses are generally misunderstood because they do not have meaning outside an accounting logic. The problem is even of more concern when not even individuals with an accounting background find references that allow them to understand profit in its complexity. If this is, in fact, the case, as this study's results suggest, teaching-learning strategies and programs' content linked to the curriculum of the Accounting Sciences program need to be urgently revised and discussed.

2.2 Concepts of Profit and Value: perspectives from accounting and economics

The scientific and professional literature reports diverse conceptual formulations for accounting profit, among which the one that considers the difference between revenue and expenses compared in a given period stands out. From this point of view, several meanings can be found for the term profit, which becomes a variant of the term Result, which in turn can also take on several denominations, such as Gross Income, Net Income, Operating Result, Non-Operating Income, Earnings Before Taxes, and Taxable Income, among others. Another accounting concept of profit is Comprehensive Result, which, according to Most (1982) is a term used to define changes in a firm's net worth during a period of transactions and other events and circumstances accruing from sources other than the owner's.

According to Schroeder, Myrtle & Jack (2001), despite the widespread use of the concept of profit, a considerable discussion lies in the relative importance of Balance Sheet and Income Statement in determining an entity's result. From the balance's point of view, profit is seen as an increase in the net value of assets during a given period while, from the income statement's perspective, profit is perceived as the product of certain activities that occurred in a given period. According to Schroeder, Myrtle & Jack (2001), in the transactions approach, the Balance Sheet represents only a list of items that remain in a company after its profit has been determined based on costs and revenues.

As Sterling (1979) points out, the two previous approaches reflect the accounting tradition in which the profit of an entity is seen as the difference between net assets measured at two different points in time. That is, it is the variation in a firm's net worth from one period to another. In this case, net worth corresponds to the residual value of the comparison between assets and liabilities based on historical cost. According to Lewis & Pendrill (2004), another way to establish Accounting Profit is to consider it as the difference between costs of the production of goods and services and revenue resulting from sales, while such revenues and costs are measured at historical values.

Belkaoui (2004) clarifies that profit is often considered a determinant in a firm's dividends distribution policy; a guide for decision-making and investments; a forecasting element; and finally, a basis for government taxation. From a tax point of view, profit is the basis for tax collection and distribution of wealth among people. From this perspective, it is calculated according to a set of rules issued by the tax authority.

Considering the accrual base of accounting, Belkaoui (2004) notes that when profit guides a firm's dividend distribution policy, the profit calculated in a given period will not always have its correspondence in cash to ensure the payment of dividends in that period. In this case, liquidity and the possibility of investment are important variables to establish a firm's dividend distribution policy. The author also states that profit is seen as investment and guides decision-making because investors seek to maximize the return of invested capital, considering an acceptable degree of risk. Thus, profit can be used to estimate a firm's ability to pay future dividend flows (cash flow) derived from an investment and the risk associated with it. Additionally, as a predictive tool, profit, based both on historical cost and current value, has been used to support the prognosis of profit and future economic events.

In addition to the issue of a semantic order, another relevant aspect in the discussion of profit from an accounting perspective concerns its measurement. According to Hendriksen & Breda (1999), the measurement of accounting profit presents important conceptual and practical problems, which are criticized for: i) not having a clear formulation for the concept of accounting profit; ii) not having a theoretical framework that makes it possible to make its calculation and presentation; iii) having the possibility of variations in the way profit is measured among different companies due to their accounting practices; iv) loosing its informative power due to variations in the level of prices, as it is measured in historical monetary terms; and v) having a lower relevance for investors and shareholders in terms of decision-making concerning investments in comparison to other types of information.

On the other hand, the economic approach is attempted to shed some light on the discussion concerning profit and value with consequent semantic and practical effects on the process of accounting measurement. In general, profit from the economics point of view corresponds to an increased net value of assets held by a firm and it is defined as the present value of future cash flows, discounted by the owners' cost of capital.

According to Scapens (1981), the concept of economic profit derived from microeconomics differs from the concept of economic income usually adopted in the accounting debate on profit and its measurement. According to the author, economic profit is defined in the microeconomics theory as an excess of benefits over the costs of productive activities in each period when all the relevant factors are measured in terms of opportunity costs. Economic income, in turn, is a product of capital and derives from the present value of a firm's future net cash flows (expected future benefits). The economic concept of profit, however, has a strong formal relationship with the neoclassic concept of economic income (in this paper, both are considered synonymous).

The origin of the concept of profit or economic income is associated with the studies by Irving Fisher (1867-1947) and John Richard Hicks (1904-1989) addressing interest, capital, and income. Over the years, the concepts of capital and income they developed have supported the definition and measurement of profit in accounting. It is based on the propositions of these economists that capital is defined as the present value of future net cash flows, while economic income represents the amount that can be consumed in a given period without decreasing the economic value of capital. Specifically, Fisher (1930) defined economic income as the flow of services generated by capital over time.

Many authors (e.g., Solomons, 1961; Jaedicke and Sprouse, 1972; Guerreiro, 1988; Hendriksen and Breda, 1999) supported by the ideas proposed by Fisher (1930) and Hicks (1946), argue that economic profit is nothing more than the variation of a firm's income measured between one period and another, so that, its calculation may derive from the present value of expected future net revenue. The measurement of economic profit may come from both net present value or only from the present value (PV). Elliott and Elliott (2011) explain that present value is a technique used to value cash flow in the future or to measure the monetary value of existing capital stock in terms of an *ad infinitum* cash flow forecast. This technique constitutes the nature of profit and capital in Economic theory, which started with Irving Fisher (1930) and was consolidated by the idea proposed by John Hicks (1946) that profit or economic income is what a firm or individual can consume without reducing capital stock, that is, a firm is as good today as it was yesterday.

Therefore, Besanko et al. (2009) explain that the concept of economic profit can be considered as a yearly measurement of a firm's present net value (NPV) because, in operational terms, the calculation of these measures is similar. Specifically in the situation in which periodic cash flow is constant and investment has an infinite useful life, a firm's NPV corresponds to the present value of economic profit generated by investments during its lifetime. According to the authors, this situation is valid including in the case in which cash flows are not constant and/or the useful life of an investment is finite.

Kreitzman and Williams (2008) also associate economic profit to a firm's NPV. They consider that a firm is a combination of investment projects (project portfolio) and the economic profits the firm earns and which can be measured by comparing investments and cash flows generated in its operations. In this case, one can use the discounted cash flow method to derive a firm's economic profit. The authors explain that, in this method, a firm's project or economic value is the result of its net cash flow and represents the difference between gross revenue minus disbursements related to all inputs consumed in the operations, discounted by the opportunity cost of invested capital and added by any residual value at the end of a project and capital additions.

Kreitzman and Williams (2008) present the following example to show that economic profit can be derived using the discounted cash flow method:

Table 1

Derivation of Economic Profit by the Discounted Cash Flow Method - Example 1

Consider a single project with a finite life that ends at period *T*, with all cash flows occurring at the end of period *t*, where $0 \leq t \leq T$. In this example, Π_t represents the project's total profit in period *t* and corresponds to operational cash flow minus economic depreciation. R_t is the cash flow in period *t*, I_{t-1} is the value of capital measured at the end of period *t-1* and beginning of *t*. ΔI_t is the economic depreciation that occurred in period *t*, where $\Delta I_t < 0$. We assume that are no new investments in any period, the value of capital at the end of *t* can be calculated as $I_t = \Delta I_t + I_{t-1}$, and the relationship between Π_t, R_t and ΔI_t is given by equation:

$$\prod_t = R_t + \Delta I_t \quad (1)$$

Considering an opportunity cost of capital *k*, which we assume to be constant over time, we may calculate economic profit π_t in period *t* using:

$$\pi_t = \prod_t - kI_{t-1} \quad (2)$$

Replacing (1) in (2) we have:

$$\pi_t = R_t - kI_{t-1} + \Delta I_t \quad (3)$$

On the other hand, a project's total profit minus the initial value of investment corresponds to the traditional definition of NPV, namely:

$$VPL = \sum_{t=1}^{T} \frac{R_t}{(1+k)^t} + \frac{I_T}{(1+k)^T} - I_0 \quad (4)$$

Where I_0 represents the residual value of investment made at the beginning of a project. Now, replacing (1) in (4), we have:

$$VPL = \sum_{t=1}^{T} \frac{\prod_t - (I_t - I_{t-1})}{(1+k)^t} + \frac{I_T}{(1+k)^T} - I_0 \quad (5)$$

Using the definition of economic profit in (2) it is possible to transform (5) into:

$$VPL = \sum_{i=1}^{T} \frac{\pi_t}{(1+k)^t} - \sum_{t=1}^{T} \frac{I_t}{(1+k)^t} + \sum_{i=1}^{T} \frac{I_{t-1}}{(1+k)^{t-1}} + \frac{I_T}{(1+k)^T} - I_0 \quad (6)$$

Canceling the second, third, fourth and fifth terms in (6), we have:

$$VPL = \sum_{i=1}^{T} \frac{\pi_t}{(1+k)^t} \quad (7)$$

Source: adapted from Kreitzman and Williams (2008)

Hence, Kreitzman and Williams (2008) show that a project's periodic economic profit may be calculated directly from (7), by simply multiplying NPV by *k*, or subtracting the economic depreciation from t's net revenue, calculated as VPL_t - VPL_{t-1}. Therefore, the period's economic profit can be defined as:

$$LE_t = (VPL_{t-1})k \quad (8)$$

or,

$$LE_t = \pi_t - (VPL_t - VPL_{t-1}) \quad (9)$$

Another aspect raised by Kreitzman and Williams (2008) concerns the issue of depreciation of base assets (investment). As shown by the standard NPV formula, the calculation of economic profit does not depend on the estimate economic depreciation. Comparing (3) and (4) allows us to observe that economic profit π_t depends on the calculation of ΔI_t, which can be wrongly estimated. NPV, however, does not depend on accounting measurements or calculation of economic depreciation because measurement of a project's total profit is more direct. As presented in (5), once NPV does not depend on estimates of economic depreciation, formula (7) shows that a project's present value of total economic profit is equal to NPV. Thus, the estimates of economic depreciation do not affect the present value of total economic profit. This is a critical difference between deriving economic profit from the present value of residual profit *ex ante* and the present value of expected future net revenues. The present value of future residual profits will only be equivalent to NPV if an appropriate scheme of depreciation and measurement of base asset is adopted over the useful life of such an investment.

Magni (2008) also provides a demonstration to prove that economic profit and NPV support a strong formal relationship. The author considers that NPV and economic profit are different names for the same idea and the maximization of one is equivalent to the maximization of the other. Economic profit is the difference between the factual profit that an entrepreneur receives and the counterfactual profit s/he should receive if s/he had invested in another business. To support these arguments, the author presents the following evidence, based on a hypothetical situation during a single period, which can be generalized for *n* periods:

Table 2
Derivation of Economic Profit by the Discounted Cash Flow method – Example 2

Consider W^0 being the cost of investment and W^1 the final result of time 1.$W^1 - W^0$ is the profit that may be reformulated as: rW^0 with $r = \frac{W^1 - W^0}{W^0}$ being rate of return. Also consider i being the relative rate of return for an alternative business and $W^0(1+i) - W^0 = iW^0$ the opportunity cost of this alternative.
Hence, economic profit π is given by:

$$\pi = rW^0 - iW^0 \quad (1)$$

Economic profit in (1) can be expressed as the difference between two future values, that is:

$$\pi = W^1 - W^0(1+i) \quad (2)$$

From this perspective, π corresponds to NPV, given by the expression:

$$VPL = -W^0 + \frac{W^1}{1+i} \quad (3)$$

Thus, the economic profit has a strong formal relationship with NPV because NPV is the present value of (1) or equivalent to the present value of (2) as shown below:

$$NPV = \frac{r}{1+i} = \frac{1}{1+i}(rW^0 - iW^0) \quad (4)$$

Source: adapted from Magni (2008)

In the same line of Kreitzman and Williams (2008) and Magni (2008), Demski (2008) argue that the concept of economic profit, derived from the economic theory, corresponds to the variation of a firm's present value or present value of a firm's sequence of future flow transactions. It implies that all future revenues and costs are treated in terms of their present value. Thus, the present value reflects the cash flow that occurs beyond *t*. Therefore, in period *t*, the value of cash flow that remains in simply PV_t. Hence, a firm's economic profit may also be defined as the change in the present value of net cash flow plus cash flow of period *t*, if the following are assumed: i) future cash flows that are discounted are cash flows between the firm and its owners; ii) firm keeps zero cash on the balance sheet, and iii) all the investment made by the owners is converted in production factors that can represent cash outflow in period *t* and beyond *t*.

To exemplify his arguments, Demski (2008) presents the following case:

Table 3

Derivation of Economic Profit by the Discounted Cash Flow Method – Example 3

Consider a situation in which a firm that operates in only three periods, uses three factors of production (z_1, z_2 and z_3), manufactures two products (q_1 and q_2), market cash prices of factors are P_1, P_2 and P_3, and the products' sale market cash prices are $\hat{P}_1$ and $\hat{P}_2$. The first and third factors are paid in period $t = 0$, and the second factor is paid in period $t = 1$. Product q_1 is manufactured, sold and received in period $t = 1$ while product q_2 is manufactured, sold and received in period $t = 2$. Based on this information, we have the following cash flow:

Cash Flow for Multiple Periods

	t = 0	t = 1	t = 2
Factor 1	$-P_1 z_1$		
Factor 2		$-P_2 z_2$	
Factor 3	$-P_3 z_3$		
Product 1		$\hat{P}_1 q_1$	
Product 2			$\hat{P}_1 q_1$
Net Cash Flow (CF_t)	$-P_1 z_1 - P_3 z_3$	$\hat{P}_1 q_1 - P_2 z_2$	$\hat{P}_1 q_1$

Based on data presented in Table 3, the firm incurs in the following total economic cost C and total revenue R considering a discount rate r:

$$C = P_1 z_1 + P_2 z_2 (1 + r)^{-1} + P_3 z_3 \quad (1)$$

$$R = \hat{P}_1 q_1 (1 + r)^{-1} + \hat{P}_2 q_2 (1 + r)^{-2} \quad (2)$$

From this, we have the following economic profit (I) in period t:

$$I_0 = \hat{P}_1 q_1 (1 + r)^{-1} + \hat{P}_2 q_2 (1 + r)^{-2} - P_1 z_1 - P_2 z_2 (1 + r)^{-1} - P_3 z_3 \quad (3)$$

That said, we observe that economic profit has a strong correspondence with PV of the future net cash flow, given by:

$$VP_0 = FC_1 (1 + r)^{-1} + FC_2 (1 + r)^{-2} \quad (4)$$

Hence, economic profit can be rewritten in $t = 0$ as:

$$I_0 = VP_0 + FC_0 \quad (5)$$

Considering the three periods, we have:

Economic Profit Period by Period

	NVP of Cash Flows	Economic Profit
t = 0	$VP_0 = FC_1(1 + r)^{-1} + FC_2(1 + r)^{-2}$	$I_0 = VP_0 + FC_0$*
t = 1	$VP_1 = FC_2(1 + r)^{-1}$	$I_1 = VP_1 - VP_0 + FC_1$
t = 2	$VP_2 = 0$	$I_1 = VP_2 - VP_1 + FC_2$

*since CF_0 is negative and represents the initial investment made by the owners, the economic profit in period $t = 0$ corresponds to the standard NPV calculation.

In this example, PV in period $t = 2$ is zero because the firm ends its operations at this time. Thus, the sum of the economic profit in the three periods is equal to the sum of cash flows.

Source: adapted from Demski (2008)

Demski (2008) adds that the economic profit, meaning the variation at the present value of future net cash flow, represents the cost of resources made available to the company. In this context, interest rate *r* corresponds to the market price of these resources and VP_t is its amount. Both are generally well known and this turns the calculation of economic profit, period by period, into a fairly simple task.

In addition to the conceptual aspects concerning the definition of profit, both from an economic and accounting perspective, even though not the focus of this paper, it is worthy noting the changes introduced in the Brazilian accounting guidelines following International Financial Reporting Standards (IFRS) issued by the International Accounting Standards Board (Iasb) considering this study's data were collected in this new regulatory context. Additionally, we cannot disregard the impact of adopting IFRS on the teaching-learning process in the Accounting field, as more recent studies have discussed (e.g., Carvalho and Salotti, 2013; Ryack et al., 2015; Alzeben, 2016; Beckman et al., 2017; Dong & Nanyan, 2019).

It is undeniable that many of the proposals formulated by economics and accounting classics regarding the measurement of profit have been accepted by international accounting standards. Most of these standards result from pressure on the part of market agents and by the world economic situation, with objectives that may vary in certain aspects but are always guided by the ideal of reducing information asymmetry and establish a more favorable business environment. In general, the aim is to improve the quality of accounting information, measurement criteria of assets and liabilities, comprehension, reliability, relevance, and comparability of accounting reports. It is assumed that harmonization of accounting standards produces economic benefits for organizations, insofar a common basis can be established for the registration of transactions, reducing the costs of raising funding in international markets and attract investments.

In Brazil, efforts to converge accounting standards with international ones became more effective with Law No. 11.6382007, followed by Law No. 11.941/2009. Anchored on these normative references, the *Comitê de Pronunciamentos Contábeis* (CPC) [Accounting Pronouncements Committee] has, since then, issued a set of technical pronouncements strongly aligned with the precepts contained in the IFRS. Concerning the recognition and measurement of economic transactions, for instance, there is great interest in giving privilege to essence over form, establishing conditions for Accounting to accommodate metrics more aligned with the concept of economic profit. As an example, we mention permission to register as a permanent asset, goods, which even though owned by a firm, are managed to generate revenues, being also responsible for controlling them and for associated risks. Additionally, it is worth mentioning the measurement of financial instruments and biological assets at fair value, the adjustment to present value of certain rights and obligations, the reduction of the recoverable value of certain assets (impairment), recognition of certain intangibles, criteria for recognizing revenues, costs and expenses of a concession contract, among others. It remains to know to what extent such regulatory improvements have contributed to changing the perception of the concept of profit, especially among individuals with a degree in Accounting.

3. Study Method and Design

This study was designed to verify whether one's level of knowledge in Accounting influences the underlying understanding of the concept of profit and value. Hence, three groups of individuals with different levels of knowledge in Accounting were compared, namely: GROUP I – Individuals with no prior knowledge in Accounting (coded as CONT_SEM); GROUP II – individuals with a bachelor's degree in a field other than in Accounting Sciences, but who reported having studied Accounting at some point of their academic training (coded as CONT_PARCIAL); and GROUP III – individuals with a bachelor's degree in Accountancy (coded as CONT).

To assess their understanding of the concept of profit, the same strategy adopted by Kida & Hicks (1982) was used here. A test with five problems addressing profit concepts based on historical values and current values called accounting approach and economic approach, respectively, was administered (see Table 4). These problems presented two alternative answers: one corresponding to the accounting approach of historical cost and the other to the economic approach based on value. Only one alternative could be selected in each question. The assumption was that the alternative chosen by the respondents would indicate their understanding of profit concepts.

Table 4
Problems formulated to Assess Conceptions of Profit

Situation 1
On January 1st 2009, Alfa company bought 100 units of goods and paid $400 in cash. On the same day, the goods' market value was $430. Considering only information provided here, check the alternative that best expresses the result of this operation:
a. Alfa company obtained a gain of $30
b. Alfa company had no gain nor loss

Situation 2
On January 1st 2008, Beta company had a stock of merchandise whose market value was $500. On January 31st 2008, the merchandise market value was $600. The company had no inventory maintenance costs and inflation was zero. Considering only information provided here, check the alternative the best express the result of this event (inventory maintenance):
a. Beta company obtained a gain of $100
b. Beta company had no gain nor loss

Situation 3
On February 1st, 2008, Gama company acquired 50 units of merchandize and paid $200 in cash. On this same day, the market value of the merchandise was equal to the value paid. On February 15th, 2008, the company sold the stock and received $550 in cash. On the sale date, the merchandize market value was $300. Inflation in the period between February 1st, 2008 and February 15th, 2008 was zero. Considering only information provided here check the alternative that best expresses the result of the sales operation:
a. Gama company obtained a profit of $250
b. Gama company obtained a profit of $350

Situation 4
Lambda company uses a piece of specific equipment to manufacture its products. This equipment was bought on June 2nd, 2007 and paid $5,000 in cash. It has a useful life of 5 years. The company had the option to rent the equipment instead of buying it. For 5 years, it would pay a rent equivalent of $5,500 (this is the value the company would pay on June 2nd, 2007, already deducted any maintenance costs). Considering only information provided here check the alternative that best expresses the value of the equipment of Lambda company on June 2nd, 2007:
a. $5.500
b. $5.000

Situation 5
On January 5th, 2008, you bought a piece of land where you intend to build a house for your family for $70,000 in cash. Assume this is your only patrimony. On December 31st, 2007, its value increased to $80,000. Assume inflation was zero. Considering only information provided here check the alternative that best expresses the value of your patrimony on December 31st, 2008:
a. $ 70.000
b. $ 80.000

Source: developed by the authors

The first problem (situation 1) concerns the *moment in which the income is recognized*. Alternative *a* indicates concept that is closer to the economic concept and *b*, closer to the accounting concept. The same reasoning is adopted in situations 2, 3 and 4. Concerning question 5, there is an inversion in which the approaches are presented. Alternative *a* indicates an approximation of the accounting concept and *b*, of the economic concept.

Problems 1, 2 and 3 explore the concept of *replacement cos*t or *current entry cost* as a measure of value and calculation of profit. This is an approach that more closely approaches the economic concept of profit and has been one of the most important bases of valuation in accounting (Hendriksen & Breda, 1999), as opposed to the accounting approach to historical cost as value base. Problem 4 addresses the concept of the discounted value of future cash flows as a criterion for measuring profit and value base in contrast to the traditional accounting approach of the original (historical) cost and deals with a situation of defining the value of fixed assets in the same way as problem 5.

To assess the predominant concept among the participants and the behavior of groups according to their answers, we took into account the total number of answers per conception, regardless of the problem. Then, a scale ranging from -5 to +5[2] was developed according to the following rule: answers that did not denote an economic view were rated +1 and answers that denoted an accounting view were rated -1. The following step was to calculate the total score of each individual and establish a final mean. Individuals with negative scores were classified as "Predominantly Accounting Approach (CONT)" and those with positive scores were classified as "Predominantly Economic Approach (ECO)". Based on this procedure, the responses were organized and submitted to the Kruskal-Wallis test to check whether there was a significant difference in the patterns of the responses between the three groups.

The participants were selected using non-probabilistic sampling, an intentional sampling method. Data were collected using a form sent by email and also applied face-to-face in a traditional graduate program in the business field located in São Paulo, SP and a federal university located in the state of Bahia, Brazil.

4. Results – Analysis and Discussion

4.1 Description of the sample and sociodemographic data

Data were collected at three points in time (between 2009 and 2010, in 2012 and 2015), resulting in 137 valid instruments (total sample): 44 from Group I (CONT_SEM), 55 from Group II (CONT_PARCIAL) and 38 from Group III (CONT). Considering that the discussion in Brazil about converging to the IFRS was established in 2007 with Law No. 11.638/2007 and with the possibility of public capital companies to voluntarily adopt international standards in 2008 and 2009, and also because many teaching institutions had already started addressing accounting international standards in their curricula, even before this period, because the European Union had adopted the IFRS in 2005, it is likely that the participants had already become familiar, at some extent, with the normative set that became mandatory in 2010.

All the individuals in group I (CONT_SEM), reported having never studied Accounting before, while 37 of these were students attending the first week of the first semester of a brick-and-mortar undergraduate program in Accounting Sciences. All the individuals in group II (CONT_PARCIAL) had already graduated or were attending a specialization between 2010 and 2015. All the individuals in this group reported having studied Accounting at some point in their academic training. The participants in group III (CONT) graduated from an undergraduate program in Accounting between 2009 and 2010.

2 In this scale potential scores are -5, -3; -1, +1, +2, +3.

The total sample was composed of 82 men and 55 women. Group I was composed of approximately 73% men and 27% women. Group II was composed of approximately 55% of men and 45% of women while Group III had approximately 53% of men and 47% of women. A total of 50% of the individuals in Group 1 were working in a company at the time of data collection while this percentage in Groups II and III was 95% and 100%, respectively. Thus, 112 (82%) individuals from the total sample were working in an organization at the time of data collection.

Concerning a potential association between having education in Accounting and understanding of profit, tables 5 and 6 present the results of the Kruskal-Wallis test.

Table 5

Distribution according to ranks of answers

		N	Middle rank
Groups	CONT_SEM	44	67.34
	CONT_PARCIAL	55	69.83
	CONT	38	69.72
	Total	137	

Source: Developed by the authors

Table 6

Results of the Kruskal-Wallis test for intergroup comparisons

	Concept of profit
Chi-square	0.118
Degrees of freedom	2
P-value	0.943

Source: Developed by the authors

For a significant level of 5%, the p-value (asymptotic significance) found was 0.943, indicating there was no statistically significant difference between the groups as the distribution of answers is similar among them. This result is corroborated by the Chi-square of independence test, which presented a statistical test of 0.305 with a two-tailed *p-value* equal to 0.859 (Table 7 presents a distribution of frequency and proportions per groups). Thus, the results of the statistical tests suggest there is no association between one's formal education in Accounting and conception of profit. The results obtained by the sample addressed in this study indicate that assimilation of the accounting approach precedes one's formal education in Accounting because the proportion of answers that denote the historical cost approach prevailed in two groups, while the difference was minimal in one group (Table 7).

To broaden the understanding of the results of the inferential test, a detailed descriptive analysis is presented. Tables 7 and 8 present the distribution of answers per group and per problem in each group.

Table 7

Distribution of answers between groups

CONT_SEM			CONT_PARCIAL			CONT		
ECO	CONT	TOTAL	ECO	CONT	TOTAL	ECO	CONT	TOTAL
46%	54%	100%	51%	49%	100%	47%	53%	100%
17	20	**37**	28	27	**55**	18	20	**38**

Notes: (i) CONT_SEM, CONT_PARCIAL and CONT refer to the groups that compose the total sample. (ii) ECO and CONT refer to the conception of profit selected in the problems presented in the instrument developed to collect data.

Source: study's data.

Table 8

Proportion of Answers per Problem in Each Group

Approach	CONT_SEM					CONT_PARCIAL					CONT				
	P1	P2	P3	P4	P5	P1	P2	P3	P4	P5	P1	P2	P3	P4	P5
ECO (%)	38.6	50.0	31.8	29.5	77.2	60.0	56.4	25.5	21.8	72.7	52.6	47.4	31.6	28.9	73.7
CONT (%)	61.3	50.0	68.1	70.4	22.7	40.0	43.6	74.5	78.2	27.3	47.4	52.6	68.4	71.1	26.3

Notes: (i) CONT_SEM, CONT_PARCIAL, and CONT refer to groups that compose the total sample. (ii) ECO and CONT refer to the conception of profit selected in the problems presented in the form developed to collect data.

Source: study's data.

Table 7 shows that the proportion of individuals in the three subsamples who selected the concept of profit according to the accounting approach is larger than those who chose the economic perspective. It suggests that, regardless of one having formal knowledge in Accounting, people more frequently adopt a concept of profit that is closer to the accounting context. This phenomenon is found even among those who reported no prior knowledge in Accounting. This result may be related to the fact that all the participants in this subsample were students from the Accounting Sciences program attending their first week of classes, which may be a strong source of selection bias. The fact that an individual was recruited from an undergraduate program in Accounting may have conditioned the meaning one assigns to profit.

As shown by Table 8, the answer that corresponded to the economic concept of profit prevailed only in problem 5. Note that this problem refers to the situation in which the statement is personal, that is, the respondents were not assessing the situation of a company, but a situation of their own. It may indicate bias regarding the judgment of profit and value. Because the accounting language is universal and institutionalized in the business environment, there is the possibility that individuals are induced to consider that in this milieu what matters is the accounting conception.

Table 8 shows that answers denoting the economic concept of profit were chosen only for problems 1, 2 and 5, while the answers to problem 5 were unanimous among the three groups, and the economic concept prevailed in groups "CONT_PARCIAL" and "CONT", and "CONT_PARCIAL" and 'CONT_SEM", for problems 1 and 2, respectively.

When analyzing the count of answers for problems 1 and 2, note that individuals regardless of their level of knowledge in Accounting did not make an association between the time when the result was recognized and recognized according to the variation of asset values from one period to another. That is, the respondents are closer to the economic approach as they acknowledge that there is a gain in transactions other than only the sale of products (accounting approach) but disregard that from this same perspective one can acknowledge gain from the variation of asset held by a company.

Still, concerning the problems individually analyzed, from the perspective of inferential analysis, no statistically significant difference was found between the groups. Table 9 summarizes the results of the Kruskal-Wallis test to compare the groups in each of the problems presented.

Table 9
Results of the Kruskal-Wallis test to compare the groups in each problem

	P1	P2	P3	P4	P5
Chi-square	4.482	0.809	0.619	0.940	0.280
P-value	0.106	0.667	0.734	0.625	0.869

Source: study's data

4.2 Additional analyses

Some studies, from the perspective of Upper Echelons Theory, suggest that one's position and management experience plays a role in how managers use information and knowledge of accounting practices to make different choices that affect organizational results (e.g., Demerjian et al. 2013; Krishnan and Wang, 2015; Callaghan, 2015; García-Meca & García-Sánchez, 2018; Ferdinand et al., 2018; Mendes et al., 2019). Additionally, many studies have analyzed the influence of gender in the learning of accounting (Trinkle et al., 2016; Myers et al., 2018; Eames et al., 2018; Martí-Ballester, 2019; Nouri and Domingo, 2019). Hence, the role of gender, managerial experience, and background in the financial field, on the conception of profit and value were investigated because these factors may influence the way people perceive this construct. For that, the logistic model described in equation 1 was used:

$$P_j = \frac{1}{1+e^{-(b_0+b_1 CONT\_PARCIAL+b_2 CONT+b_3 Trabalha+b_4 Ger+b_5 Fin+b_6 Gen)}} \quad \text{(Equation 1)}$$

where:

1. P_j is a dependent variable that can assume values 0 and 1. In this study, 0 was assigned to indicate a predominantly accounting concept of profit and 1 was chosen to indicate a predominantly economic concept;
2. b_0, b_1, b_2, b_3, b_4, b_5 and b_6 and are parameters of the model;
3. the model's covariates are presented by dummy variables that assume value 0 or 1, where 1 indicates the individual has an undergraduate degree in areas other than accounting (*Cont_Parcial*); a bachelor's degree in Accounting Sciences (*Cont*); is working (*works*); occupies a managing or other leadership position (*Man*); works in the financial field (*Fin*); is a man (*Gen*), and 0 for the remaining cases.

A logistic regression using the "Enter" method was performed because all the variables were considered in the model, considering the objective was to identify which variables would be significant and explain the concept of profit. Table 10 presents the results.

Table 10
Logistic Model's Results

	b	Standard error	Wald	Sig.	Exp(B)
Cont_parcial	0.197	0.510	0.149	0.700	1.217
Cont	-0.140	0.608	0.053	0.818	0.870
Works	-0.510	0.568	0.804	0.370	0.601
Man	0.157	0.459	0.116	0.733	1.170
Fin	0.453	0.476	0.906	0.341	1.573
Gen	**-0.797**	**0.375**	**4.509**	**0.034**	**0.451**
Constant	0.605	0.494	1.500	0.221	1.832

Source: study's data.

In the regression analysis, the constant represents the individuals of GROUP I (Cont_Sem). Considering that the coefficients of the variables *Cont_Parcial* and *Cont* were not significant, the results serve as a robustness test for the Kruskal-Wallis and Chi-Square results.

As shown in Table 10, only the variable "*Gen*" presented asymptotic significance (*p-value*=0.034 for significance at 0.05) with a coefficient of -0.797. It suggests that the men in the sample were more conservative than women regarding the understanding of the concept of profit. The coefficient -0.797 indicates that being a man (woman) reduces (increases) the likelihood of adopting an economic approach of profit. The value Exp(B) of variable *gen* indicates that men's Odds Ratio, in comparison to women, to predominantly chose an economic concept of profit in the test is only 0.45. Approximately 40.24% of the men (33 out of 82) predominantly presented an economic view of profit while among women this percentage was 60% (33 out of 55).

To verify whether there are any statistically significant differences between the proportions of groups, we also performed a Chi-square of Independence. The value of the statistical test was 5.146 with a p-value equal to 0.023, suggesting that gender in this study sample, is associated with the concept of profit and may condition the way individuals perceive it.

On the other hand, the fact that almost 82% of the individuals were working in a firm was not associated with their underlying concept of profit. Considering that every meaning assigned to an object or phenomenon is influenced by references and knowledge an individual accumulates over time, as indicated by the Perception theory and Upper Echelons Theory, it is surprising that no significant differences were found among the participants concerning the conception of profit, particularly among those occupying leading positions. Some studies suggest that one's high level of managerial skills and experience affect the way they use accounting information to influence corporate results (Demerjian et al. 2013; Krishnan and Wang, 2015; García-Meca & García-Sánchez, 2018; Ferdinand et al., 2018; Mendes et al., 2019).

Under normal conditions, one would expect that individuals with greater managerial experience would present a broader understanding of the concept of profit. After all, these individuals are expected to be familiar with a set of knowledge that would allow them to understand the various possibilities of measuring a firm's profit and each alternative is linked to rules used to measure assets, liabilities, revenues, and expenses. Nonetheless, the opposite was identified here, that is, a unidirectional view associated with the concept of profit was found as understanding linked to the historical cost approach predominated. Note that individuals with a bachelor's degree in Accounting are practically leveled with individuals with no background in accounting.

The distance between the results found here and what was expected is explained by the Perception theory. First, it is important to bear in mind that individuals entering the university are not a blank slate; rather, people possess prior knowledge about many things. When they enter a higher education program they are likely to have experienced many events that contributed to sediment the idea that profit is only the difference between revenue accruing from the sale of a product and the price by which it was acquired. Likewise, one cannot rule out the hypothesis that this understanding is being reinforced in the first semesters of the Accounting program, or even during the entire program. Differently from other programs in the so-called Applied Social Sciences, Accounting Sciences perhaps is among those that provide the least theoretical knowledge to students. This is one especially important point that deserves being further investigated in future studies. Why is that the teaching of Accounting does not support students in the establishment of a broader perception of profit consistent with current regulatory standards?

5. Final Considerations

This study was intended to investigate the relationship between formal education in Accounting and the underlying understanding of the concept of profit. Despite criticism concerning the limitations that are generally assigned to accounting profit, both in semantic and practical terms, this study's findings suggest that the historical cost approach used as the base value was dominant among the individuals addressed here. The individuals in the three groups more frequently presented an accounting conception of profit, considered as the value that results from comparing revenue with costs or expenses measured according to the historical cost. There was no evidence that the level of one's formal education in Accounting is related to the underlying conception of profit. This study, however, revealed that being a woman might influence the way profit is understood. Future research may clarify this finding.

Given the exploratory and descriptive nature of this study, none of the hypotheses was formally established. Based on anecdotal evidence, however, we expected that individuals with a background in Accounting Sciences would present a broader understanding of the concept of profit compared to those who had never studied Accounting or had only initiated in this field of knowledge. Concerning individuals who do not belong to the world of accounting, theoretically less vulnerable to the bias of historical cost, they were expected to be mentally freer to interpret phenomena in the world of business from a predominantly economic perspective. All the subgroups, however, presented a conception of profit attached to the concept of historical cost, thus, a very conservative view of profit.

Considering that the interpretation of phenomena, that is, everything that touches human consciousness, is influenced by knowledge, prior experiences, expectations, and other cognitive references, as suggested by the Perception theory, we expected significant differences would be found between the subgroups in terms of the concept of profit. Contrary to expectations and the theory itself, however, we observed a disconcerting alignment among the individuals, that is, regardless of one's background in Accounting, the results suggest there are no important differences among the participants about what they understand of profit.

About individuals who are culturally distant from the accounting universe, one cannot demand mental flexibility able to harbor multiple conceptions of profit. Due to individual experiences built in the business world or even due to one's background, it is understandable that "common people" feel more comfortable with a conservative version of the meaning of profit. In principle, there is not a problem at all, considering the consequences of errors accruing from decisions based on this metric are restricted to one's personal life.

The same cannot be said about individuals versed in Accounting because these usually seek to serve the corporate world. A broader view is expected from individuals who have already been exposed to the literature addressing various conceptions of profit and the multiple possibilities of measuring equity components. It is not admissible that alumni from Accounting Sciences programs are not able to recognize that different managerial purposes may demand the application of differentiated concepts of profit. Yielding to the temptation of operating with a single concept of profit, even more when linked to the idea of historical cost, is equivalent to minimizing the informative potential of Accounting and shut down to the multiple opportunities in the market. To mention only one example, individuals not able to understand profit, other than the difference between revenue and expired cost, will certainly face difficulties when attempting to support an investor whose greatest interest is usually related to the future value of his/her patrimony.

Considering that most countries, including Brazil, are already moving towards fair value accounting based on the market due to the adoption of IFRS, it is perhaps interesting to discuss with greater emphasis value-based economic concepts in Accounting Sciences programs. The results found in this study shed light on this issue as they suggest that the concept of historical cost is part of people's archetype, regardless of their level of accounting knowledge. Therefore, future studies should investigate whether one's understanding of profit and other accounting concepts differ from before and after IFRS was mandatorily adopted in Brazil.

This study's findings are an alert for those responsible to decide on pedagogical projects and curricular guidelines relevant to Accounting Sciences programs. The assumptions of the Perception theory suggest that when students are encouraged to value a certain concept of profit over others in the initial phase of their academic training, they may face difficulties understanding and applying other relevant concepts to certain users of Accounting services in the future.

References

Alzeban, A. (2016). Factors influencing adoption of the international financial reporting standards (IFRS) in accounting education. Journal of International Education in Business, Vol. 9(1) , pp. 2-16. doi.org/10.1108/JIEB-10-2015-0023.

Beckman, Judy K. and Michel, Mary L. and Munter, Paul and Kaiser Venuti, Elizabeth. (2017). Progress Despite Uncertainty: Results of the AAA/KPMG Survey on Implementation of IFRS into U.S. Accounting Curricula (October 24, 2017). Available at SSRN. doi.org/10.2139/ssrn.3058275.

Bakhtin, Mikhail. (1997). Marxismo e filosofia da linguagem. Trad. de M. Lahud e Y. F. Vieira. 8. ed. São Paulo: Hucitec.

Bartlett, F. C. (1932). Remembering: A study in experimental and social psychology. Cambridge University Press, Londres. Pp. 11-11. Recuperado de http://nwkpsych.rutgers.edu/~jose/courses/578_mem_learn/2012/readings/Bartlett_1932.pdf

Belkaoui, Ahmed Riahi (2004). Accounting theory. (5 ed.) London, United Kingdom Cengage Learning EMEA.

Berlo, David K. (1999). O processo da comunicação: introdução à teoria e à prática; tradução Jorge Arnaldo Fontes. (9. ed.) São Paulo: Martins Fontes.

Callaghan, C. and Papageorgiou, E. (2015), "Gender differences in locus of control and student performance in the South African context of accounting studies", Meditari Accountancy Research, Vol. 23 No. 3, pp. 348-368. https://doi.org/10.1108/MEDAR-02-2014-0018

Carvalho, L. N., & Salotti, B. M. (2013). Adoption of IFRS in Brazil and the consequences to accounting education. Issues in Accounting Education, 28(2), 235–242. doi:10.2308/iace-50373.

Coelho Netto, J. T. Semiótica, informação e comunicação. 4. ed. São Paulo: Editora Perspectiva, 1996.

Dechow, Patricia M. (1994). Accounting earnings and cash flows as measures of firm performance: the role of accounting accruals. Journal of Accounting and Economics, 18(1) pp.3-42. doi.org/10.1016/0165-4101(94)90016-7

Demerjian, P., B. Lev, M. Lewis, and S. McVay. (2013). Managerial ability and earnings quality. The Accounting Review, 88(2) pp. 463–498. doi: 10.2308/accr-50318

Demski, J. S. Managerial Uses of Accounting Information, 2ed. Springer Science+Business Media, LLC, 2008.

ong, Nanyan & Bai, Meng & Zhang, He & Zhang, Junrui. (2019). Approaches to learning IFRS by Chinese accounting students. Journal of Accounting Education, Elsevier, 48(C), pp.1-11. doi: 10.1016/j.jaccedu.2019.04.002

Eames, M., Luttman, S., & Parker, S. (2018). Accelerated vs. traditional accounting education and CPA exam performance. Journal of Accounting Education, 44, pp.1-13. doi.org/10.1016/j.jaccedu.2018.04.004.

Elliott, B. and Elliott, J. (2001). Financial Accounting and Reporting, 14th ed. Pearson, 2011.

Feldman, Robert S. (2015). Introdução à Psicologia. tradução: Daniel Bueno, Sandra Maria Mallmann da Rosa; revisão técnica: Maria Lucia Tiellet Nunes. (10.ed.), Porto Alegre: AMGH.

Ferdinand A. Gul, Mehdi Khedmati, Edwin KiaYang Lim, and Farshid Navissi. (2018). Managerial Ability, Financial Distress, and Audit Fees. Accounting Horizons, vol. 32, No. 1, pp. 29-51. doi/10.2308/acch-5188.

Fisher, Irving. (1930). The Theory of Interest: As determined by impatience to spend income and opportunity ot invest it. 1(8) pp. 1-566. NY: The Macmillan Company.

García-Meca, E., & García-Sánchez, I.-M. (2018). Does managerial ability influence the quality of financial reporting? European Management Journal, 36(4), pp.544–557. doi:10.1016/j.emj.2017.07.010.

Guerreiro, Reinaldo. (1989). Modelo Conceitual de sistemas de informação de gestão econômica: uma contribuição à teoria da comunicação da contabilidade. Tese de Doutorado,Universidade de São Paulo. Recuperado de https://scholar.google.com.br/citations?user=bNwgid0AAAAJ&hl=pt-BR

Hendriksen, Eldon S. e Breda, Michael F. Van. (1999). Teoria da contabilidade. Tradução de Antônio Zorrato Sanvicente. (5 ed.), São Paulo: Atlas.

Hicks, John Richard. (1946). Value and capital, an inquiry into some fundamental principles of economic theory. (2 ed.), Oxford At The Clarendon Press.

Holthausen, Robert W. & Watts, Ross. (2001). The relevance of the value-relevance literature for financial reporting standard setting. Journal of Accounting & Economics, 31(1-3), pp. 3-75. doi.org/10.1016/S0165-4101(01)00029-5

Hopp, J. C.; Leite, H. P. (1988, outubro/dezembro). O crepúsculo do lucro contábil. Revista de Administração de Empresas, 28 (4) pp. 55-63.

Jaedick, Robert Keith e Sprouse, Robert T. (1972). Fluxos contábeis: rendas, fundos e capital. Tradução de José Bonifácio da Cruz, revisão e adaptações técnicas do Prof. Celso Abano Costa. São Paulo: Atlas.

Kida, T. E., & Hicks, D. W. (1982). Economic versus Accounting Income: The Impact of Education on Students' Concepts. The Journal of Economic Education, 13(2), 40. doi:10.2307/1182618

Kothari, S. P. (2001). Capital markets research in accounting. Journal of Accounting and Economics, (vol.31), pp. 105-231. Kreitzman, K. and Williams, M. A. (2008). Estimating Market Power with Economic Profits, SSRN eLibrary. doi.org/10.2139/ssrn.1167823.

Krishnan, G., and C. Wang. 2015. The relation between managerial ability and audit fees and going concern opinions. Auditing: A Journal of Practice & Theory, 34 (3) pp. 139–160. doi:10.2308/ajpt-50985.

Lee, C. M. C. (1999). Accounting-Based Valuation: Impact on Business Practices and Research. Accounting Horizons, 13(4), pp. 413–425. doi:10.2308/acch.1999.13.4.413.

Lev, B. (1989). On the Usefulness of Earnings and Earnings Research: Lessons and Directions from Two Decades of Empirical Research. Journal of Accounting Research, (vol.27), pp.153-192. doi:10.2307/2491070.

Lewis, Richard; Pendrill, David. (2004). Advanced financial accounting. (7ª. ed.) Glasgow: Financial Times Prentice Hall imprint.

Liang, L., & Riedl, E. J. (2014). The Effect of Fair Value versus Historical Cost Reporting Model on Analyst Forecast Accuracy. The Accounting Review, 89(3), pp. 1151–1177. doi:10.2308/accr-50687.

Magni, C. A. Economic profit, NPV, and CAPM: biases and violations of Modigliani and Miller's proposition I. The ICFAI Journal of Applied Finance, n. 14, issue 10, p. 59-72, October/2008. Disponível em: http://ssrn.com/abstract=1075462

Martí-Ballester, Carmen. (2019). Factors that Influence Academic Performance: Analyzing Gender Differences in Accounting Students. Revista Educación. 43(2), pp. 31-48 doi:10.15517/revedu.v43i2.28916.

Mendes, A. C. A., Lunkes, R. J., Menegazzo, G. D., Schnorrenberger, D., & Lavarda, C. E. F. (2019). Características Observáveis dos Gestores e a Utilização da Informação Contábil: Um Estudo com Base na Teoria dos Escalões Superiores. Enfoque Reflexão Contábil, 38(1), pp.67-84. doi:10.4025/enfoque.v38i1.39192.

Most, Kenneth. Accounting theory. (1982). Ohio: Grid. Inc.

Myers, J., M. Franklin, G. Lepak, and J. Graham. (2018). The impact of gender and cognitive information processing models on CPA exam pass rates: A call for research. Journal of Business and Educational Leadership, 7 (1) pp. 59-71. Recuperado de http://asbbs.org/files/2018/JBEL7.1.pdf#page=59

Nouri, H. and Domingo, M. (2019), "Gender and Performance in Accounting Courses During and After Shock Periods", Calderon, T. (Ed.) Advances in Accounting Education: Teaching and Curriculum Innovations. Advances in Accounting Education, (vol. 23), pp. 47-66Emerald Publishing Limited, . doi.org/10.1108/S1085-462220190000023003.

Ogden, C. K., Richards, I. A. (1938). The meaning of meaning. (5ª ed.). New York: Harcourt, Brace and Co.

Papageorgis, D. (1963). Bartlett Effect and Persistence of Induced Opinion Change. Journal of Abnormal and Social Psychology. 67(1), pp. 61-67. doi https://doi.org/10.1037/h0043251

Peirce, Charles S. (1999). Semiótica. Trad. José Teixeira Coelho Netto. (3ªed.) São Paulo: Editora Perspectiva.

Ryack, Kenneth N., Mastilak, M. C., Hodgdon, Christopher D., and Allen, Joyce S. (2015). Concepts-Based Education in a Rules-Based World: A Challenge for Accounting Educators. Issues in Accounting Education, 30(4), pp. 251-274. doi.org/10.2308/iace-51162.

Ryan, J. (2008). The Relationship Between Accounting Profit and Economic Income. Australian Accounting Review, 17(43), pp. 33–46. doi:10.1111/j.1835-2561.2007.tb00334.x .

Santaella, Lucia. (1998). A percepção: uma teoria semiótica. (2ªed.) São Paulo: Editora Experimento.

Scapens, R.W. (1981). Accounting in na Inflationary Enviroment, Macmillan Education, UK.

Schipper, K., and L. Vincent. (2003). "Earnings Quality", Accounting Horizons 17(Supplement), pp.97-100 https://doi.org/10.2308/acch.2003.17.s-1.97

Schroeder, Richard G; Myrtle, W. Clark; Jack, M. Cathey. (2001). Financial accounting theory and analysis: text readings and cases. (7ª ed.) New York: John Wiley & Sons.

Solomons, David. (1961). Economic and Accounting Concepts of Income. The Accounting Review, 36 (3), pp. 681-698.

Sterling, Robert R. (1979). Theory of the measurement of enterprise income. Lawrence: University Press of Kansas.

Trinkle, B., J. Scheiner, A. Baldwin, and G. Krull. (2016). Gender and other determinants of CPA exam success: A survival analysis. The Accounting Educators' Journal, 26, pp. 101-118. Recuperado de https://pdfs.semanticscholar.org/fc26/21734c09ab5f4157e150cd370f82b815694a.pdf?_ga=2.123639368.217841734.1581106557-401073071.1581106557

Watts, R. L. (2003). Conservatism in Accounting Part I: Explanations and Implications. Accounting Horizons, 17(3), pp. 207–221. doi:10.2308/acch.2003.17.3.207.

Zeff, Stephen A.; Keller, Thomas F. (1973). Financial accounting theory I: issues and controversies. (2ª ed.) New York: McGraw-Hill.