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Accounting Choices in Corporate Financial Reporting: A Literature Review of Positive Accounting Theory

İdil Kaya

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<http://dx.doi.org/10.5772/intechopen.68962>

Abstract

This chapter aims to put light on the positive accounting theory and related empirical studies and identify its broad contributions to the accounting research. Our objective is to provide a review of positive accounting literature in order to synthesize findings, identify areas of controversy in the literature, and evaluate critiques. Positive research in accounting started coming to prominence around the mid-1960s and had been a vector of paradigm shift within the financial accounting research in the 1970s and 1980s. The positive accounting theory is developed by Watts and Zimmerman and is based on work undertaken in economics and is heavily dependent on the efficient market hypothesis, the capital assets pricing model, and agency theory. The three key hypotheses are bonus plan hypothesis, debt hypothesis, and political cost hypothesis. Nevertheless, PAT has been subjected to severe and numerous criticisms from different perspectives, which are critiques on research methods, its theoretical foundations, its logic on economics' basis, and its reference to philosophy of science. PAT and its hypotheses will continue to be a rich field of empirical research and the basic questions that it raises are still relevant today.

Keywords: positive accounting theory, accounting choice, management compensation hypothesis, debt hypothesis, political cost hypothesis

1. Introduction

Academic studies on the factors that affect a firm's accounting choices triggered a paradigm change in accounting research, altering the nature of literature from prescriptive to predictive. The construct of the new paradigm was first articulated by Ross Watts and Jerold Zimmerman with the publication of their revolutionary articles in *the Accounting Review*—"Towards a Positive Theory of the Determination of Accounting Standards" in 1978 and "The Demand for and Supply of Accounting Theories: The Market for Excuses" in 1979.

The term “Positive Accounting Theory” has come to practise to refer to the accounting theory developed and named by Watts and Zimmerman. The authors seek to appreciate and explain the concept of economic consequences of the interests of managers and financial accounting and reporting. In other words, their major aim is to explain and predict why managers and accountants choose particular accounting methods in preference to others. Furthermore, they assert that firm's attributes, such as leverage and size, are predictive variables of the firm's accounting choice.

In fact, positive research in accounting started coming to prominence around the mid-1960s and had been a vector of paradigm shift within the financial accounting research in the 1970s and 1980s. The term “positive” refers to the theory that attempts to explain and make good predictions of particular phenomena. The positive accounting theory (PAT) relied in great part on work undertaken in economics and was heavily reliant on the efficient market hypothesis, the capital assets pricing model, and agency theory.

PAT has led to a large amount of empirical studies. Positive researchers empirically test their predictions around the bonus plan hypothesis, the debt covenant hypothesis, and the political cost hypothesis. These hypotheses can be used in two distinguished forms of positive accounting theory. The first form is the opportunistic form asserting that managers in electing accounting procedures react to maximize the wealth, and the second form is the efficiency form for good corporate governance.

PAT has been subjected to severe and numerous criticisms from different perspectives, which are critiques on research method, economics base, and reference to philosophy of science. It is said that PAT seeks to predict and explain why managers choose to adopt particular accounting methods in preference to others but says nothing as to which method a firm should use.

We believe that PAT and its hypotheses will continue to be a rich field of empirical research and the basic questions that it raises are still relevant today. This chapter aims to put light on the PAT and related empirical studies and identify its broad contributions to the accounting research. Our objective is to provide a review of extant literature in order to synthesize findings, identify areas of controversy in the literature, and evaluate critiques.

Our literature review is organized around ideas of PAT, its hypotheses, supporters and followers, and finally critiques of this theory. The remaining part of this chapter proceeds as follows: We first examine the forces that give rise to this theory. We then investigate its foundations using the works of Watts and Zimmerman. We describe how empirical studies added unique insights into its development. Some criticisms are evaluated. Finally, we outline and discuss the significant contribution of PAT to our understanding of corporate reporting practices. We conclude that this theory has generated several useful insights on managers' reporting decisions.

2. The paradigm change in accounting research: the origins of positive accounting theory

In this section, we examine the forces and the publications that had a major impact on the emergence of PAT. This theory is based on work undertaken in economics and is heavily

dependent on the efficient market hypothesis, the capital assets pricing model, and agency theory.

Positive research began in early 1960s and opened a new era in accounting literature, using economic models and statistical processing in empirical studies. The first serious discussions and analyses of positive research on accounting emerged in late 1960s with the pioneering studies of Ball and Brown [1] and Beaver [2]. These two seminal publications provide significant evidence of the information content in accounting earnings announcements, i.e., the earnings reflect some of the information in security prices. They gave rise to a huge literature of capital markets research [3].

A significant number of academic publications investigated the determinants of the shift in paradigm from narrative to positive research. Major findings offered by these studies are as follows.

- Research methodologies have been developed based on the “hypothesis formulating and testing” [4, 5].
- With the emergence of computers, large new databases of financial information would be readily accessible for researchers [4, 6].
- The concept of “economic consequences” has been investigated. This concept is defined by Zeff as “the impact of accounting reports on the decision-making behaviour of business, governments, and creditors” [7, 8].
- New academic journals have been established and they adopt the selection policy of empirical researches [9].
- The development of behavioural science enabled to analyse managers' accounting choices [6, 9].
- Generous research grants have been provided to new generation of accounting researchers that applied empirical research methods [9].

It is said that two reports on US business education were the impetus for those changes [4, 5]. In 1959, R.A. Gordon and James E. Howell published “Higher education for business” and Franck C. Pierson published “The education of American Business men”. The former report was commissioned by Ford Foundation and the latter by Carnegie Foundation. Besides their recommendations on teaching methods, these authors stressed the need to develop research based on the formulation and testing of the hypotheses. They also describe the resources necessary to advance the level of business studies.

Another significant explanation of the PAT's development is the strong influence of several academic works on positive economic theory, efficient markets hypothesis, CAPM, agency theory, and capital markets researches (**Table 1**). Watts and Zimmerman aimed to develop an economic-based accounting theory and they advance an empirical methodology that focus on economics-based explanations and predictions of accounting practice. Boland and Gordon assert that this economic-based accounting theory is a combination of Milton Friedman's instrumentalism and Paul Samuelson's positivism [15]. They also add that Watts and Zimmerman practise the methodology as that of the Chicago School economists [6, 15].

In 1976, the publication of Jensen and Merckling's article on agency theory had a major impact on PAT [14]. In agency theory, the firm is analysed as “a nexus of contracts” and this concept is accepted by positive accounting research. The contracts are produced with the aim of guarantee that all parties, acting in their own self-interest, are at the same time motivated towards maximizing the firm's value. PAT accentuates the function of accounting in reducing agency costs and its essential role in an efficient corporate governance structure [4].

Authors	Contribution
Friedman [10]	Friedman (1953) described positive science in economics.
Fama [11]	He introduced and subsequently made major contribution to the efficient markets hypothesis.
Sharpe [12] and Lintner [13]	They developed the capital asset pricing model (CAPM).
Ball and Brown [1]	They found significantly positive correlation between the sign of the abnormal stock return and the sign of the earnings change over the firm's previous year's earnings.
Beaver [2]	The author examined the variability of stock returns and trading volume around earnings announcements. He found that the flow of info increase in the earnings announcement periods.
Jensen and Merckling [14]	The authors investigated managerial behaviour, agency costs, and ownership structure in the context of the firm.

Table 1. Academic literatures that were the impetus for PAT.

3. The development of positive accounting theory

In this section, we examine the development of the PAT, the contribution of major works of Watts and Zimmerman, and the hypotheses of this theory.

The construct of PAT was first articulated by Watts and Zimmerman and popularized in their book: positive accounting theory [6, 16]. **Table 2** shows major works of Watts and Zimmerman in this issue. They adopted the label “positive” from the economics to distinguish accounting research aimed at understanding accounting from research directed at generating prescriptions. They investigated the role of accounting theory in determining accounting practice and build a theory intending to be a positive theory (Watts & Zimmerman, p. 274) [5], i.e.,

“a theory capable of explaining the factors determining the extant accounting literature, predicting how research will change as the underlying factors change, and explaining the role of theories in the determination of accounting standards. It is not normative or prescriptive”.

Authors	Contribution
Watts and Zimmerman [16]	This pioneering article outlined many of the problems posed by regulatory capture. The authors announce that ultimately, they seek to develop a positive theory of the determination of accounting standards. They believe that management plays a central role in the determination of standards. They examine factors affecting management wealth which are taxes, political costs, regulation, information production and management compensation plans. They find that the political cost factor is important in affecting management's attitude.
Watts and Zimmerman [17]	This paper analyses; <ul style="list-style-type: none"> • The demands for accounting theories in an unregulated economy than in a regulated economy, i.e., the additional demands generated by government intervention; and • The supply of accounting theory.
Watts and Zimmerman [6]	This book is written and used for second year M.B.A and Ph.D. audience. Authors review the theory and methodology of the economic-based literature in accounting. EMH and CAPM are explained. The important role of EMH in accounting research is emphasized. CAPM is used as the valuation method. The methodologies of the empirical studies in the development of the literature are explained. Analyses and syntheses are provided on the different issues. These are forecasting earnings, contracting process, compensation plans, debt contracts, political process, empirical tests of accounting choice, stock price tests of the theory, and the theory's application to auditing.
Watts and Zimmerman [5]	This paper examines and evaluated the evolution and state of PAT and criticisms of positive accounting research. The authors responded to most of the published critiques on issues relating to research method and philosophy of science. Opportunistic and efficiency perspectives of PAT are distinguished.

Table 2. Major works of Watts and Zimmerman.

Watts and Zimmerman reviewed the theory and methodology of the economic-based literature in accounting in their prominent book dated 1986 [6]. In this book written and used for second year M.B.A and Ph.D. audience, the authors point the important role of efficient market hypothesis in accounting research; they use CAPM as the valuation method. They explain the methodology of the empirical studies in the development of the literature. They also provide analyses and syntheses on forecasting earnings, contracting process, compensation plans, debt contracts, political process, empirical tests of accounting choice, stock price tests of the theory, and the theory's application to auditing [6].

According to Watts and Zimmerman, the “property rights” theory adopted by positive accounting researchers assumes that the firm is a nexus of contracts between self-interested individuals. PAT highlighted the importance of contracting costs, including information, agency, bankruptcy, and lobbying costs [5, 6].

In 1990, after more than a decade since the publication of 1978 and 1979 articles, the authors examined and evaluated the evolution and state of PAT and criticisms of positive accounting research in their article “Positive Accounting Theory: A Ten Year Perspective”, in the accounting review. They emphasized that their two pioneering papers contributed to a literature that has uncovered empirical regularities in accounting practice and they responded to most of the published critiques [5]. In evaluating the contribution of this article to the literature, Watts and Zimmerman assert that:

“The literature explains why accounting is used and provides a framework for predicting accounting choices. Choices are not made in terms of “better measurement” of some accounting construct, such as earnings. Choices are made in terms of individual objectives and the effects of accounting methods on the achievement of those objectives”.

Watts and Zimmerman identified three essential hypotheses. These are bonus plan hypothesis (or management compensation hypothesis), the debt/equity hypothesis (or debt hypothesis), and political cost hypothesis [5]. According to management compensation hypothesis, managers with bonus plans anchored to earnings are more likely to adopt accounting methods that increase current period's reported income. The debt hypothesis predicts that the higher the firm's debt/equity ratio, the more likely managers use accounting methods that increase earnings. As far as political costs hypothesis is concerned, it is assumed that if managers are under political scrutiny, they are likely to adopt accounting methods that reduce reported income [4].

4. Literature relating to the PAT

In this section, we examine the PAT literature. A considerable amount of literature has been published on PAT. Numerous empirical studies tested its hypotheses, provided important evidence, and contributed to the theory.

PAT literature focuses on management's motives for financial reporting choices, using economic models and statistical processing, when there are agency costs and information asymmetry. It attempts to explain and predict firm accounting choices as a part of the firm's overall need to minimize its cost of capital and other contracting costs, applying methods and techniques from economics. Opportunistic attitudes and behaviours of managers and their impacts on accounting policy choices have been investigated widely in positive research and this led to a rich body of empirical studies on earnings management. A wide range of the literature incorporates both ex ante contracting efficiency incentives with ex post redistributive effects. The methodology of this literature is the methodology of economics, finance, and science generally [5]. **Table 3** provides an overview of these empirical researches and their research area.

Beattie et al. state that this literature implicitly assumes that the market is inefficient and relies on bottom line accounting numbers and does not show interest in methods used to produce them [18]. According to Healy and Palepu (p. 419) [19],

"Empirical studies of positive accounting studies test whether managers make accounting method changes or accrual estimates to reduce the costs of violating bond covenants written in terms of accounting numbers, to increase the value of earnings-based bonuses under compensation contracts, or to reduce the likelihood of implicit or explicit taxes".

On the other hand, Healy and Palepu assert that PAT studies generated several interesting empirical regularities regarding management accounting choice but there is ambiguity on the interpretation of this evidence [19].

Authors	Research area
Ball, Kothari and Watts [20]	Determinants of the relationship between earnings changes and stock return.
Beattie [18]	Relationship between extraordinary items and income smoothing.
Christie [21]	Cross-sectional analysis.
Christie [22]	Evidence on contracting and size hypotheses.
De Angelo [23]	Study of the accounting numbers as market value substitutes in managerial buyouts of public stockholders.
Dechow [24]	The role of accounting accruals in earnings and cash flows.
Dechow and Sloan [25]	Executive incentives and the horizon problem.
Dechow, Sloan and Sweeney [26]	Detection of earnings management.
Dechow, Kothari and Watts [27]	The relation between earnings and cash flows.
Dechow, Ge and Schrand [28]	Proxies in earnings quality.
Healy [29]	The effect of bonus schemes on accounting decisions. Description of "taking a bath" or Big Bath concept.
Healy and Palepu [19]	Information asymmetry, corporate disclosure, and the capital markets.
Kothari [3]	Review of capital markets research in accounting.
Lys and Sohn [30]	The association between revisions of financial analysts' earnings forecasts and security price changes.
Nagar, Nanda and Wysocki [31]	Discretionary disclosure and stock-based incentives.
Sweeney [32]	Debt-covenant violations and managers.
Verrecchia [33]	Discretionary disclosure.
Zang [34]	The contracting benefits of accounting conservatism to lenders and borrowers.

Table 3. Literature constructed on the PAT.

5. Criticisms from different perspectives

In this section, we summarize and analyse the literature having critical comments on PAT. The literature developed since the first publication of Watts and Zimmerman articles in 1978.

PAT has been subject to a continuous and endless stream of criticisms since it first emerged in late 1970s. The critiques are from different perspectives. These are critiques related to its theoretical foundations, its logic on economics' basis, its research methods, and critiques on its reference to philosophy of science [15, 35]. It has been defended that this theory is scientifically wrong and its predictions do not always hold. Christenson (p. 18) asserts that [36]:

“By arguing that their theories admit exceptions, Watts and Zimmerman condemn them as insignificant and useless”.

In an examination of PAT methodology with a critical look, Christenson argues that he prefers to use the name “the Rochester School” referring to authors' affiliation instead of PAT [36]. Furthermore, he asserts that this discipline should be denominated “sociology of accounting” since it is about describing, predicting, and explaining the behaviours of managers and accountants. **Table 4** presents an overview of some criticisms.

R. J. Chambers, preeminent normative theorist, criticises the PAT in an aggressive manner, begins his article with the so-called positive accounting theory and continue with the label “PA cult” referring to positive accounting theorists [37]. Chambers [37] asserts that:

“The verbal adornments of the cult — ‘positive’, ‘empirical’, ‘scientific’, ‘economics based’ and so on — its rituals, its congregations, its sanctions and its cohesion, drew a galaxy of followers into orbit about the Chicago-Rochester axis”.

The other major criticisms are as follows:

- The theory does not provide prescription to improve accounting practice [4, 40].
- Its fundamental assumption that all action is driven by self-interest is flawed.
- It focuses only in a single motive. Complex nature of shareholders and managers behaviour is not regarded in the analysis [4, 38].
- Measurements and proxies being used in its empirical researches have a simplistic nature [38].
- The banking and global financial crisis in 2008 raised doubts on the efficient market hypothesis [4].

Authors	Critiques
Boland and Gordon [15]	The authors examined economics-based critiques and those based on philosophy of science. They conclude that critiques on philosophy of science may not be very effective but the critiques on the limitations of equilibrium-based economic analysis are valid.
Chambers [37]	The author criticise PAT in a harsh style. He argues that PAT does not embrace the substance of accounting; and the PA literature deals with only firms having publicly traded security, i.e., a very small part of the accounting theory and practices. He criticises the theorists to spawn new journals to publish PAT literature.
Christenson [36]	The author provides a critical evaluation on the label and the methodology of the theory.
Fields, Lys and Vincent [38]	They criticise that PAT focuses only in a single motive. They argue that complex nature of shareholders and managers behaviour is not regarded in the analysis and the proxies used in empirical studies are simplistic.
Milne [35]	The author criticises the theory in the context of political costs and social disclosure analyses.
Mouck [39]	A critical examination of Watts and Zimmerman's works and their use of the rhetoric of science is provided.
Sterling [40]	The author argues that PAT is subjected to scrutiny; its pillars (value-free study and accounting practices) are found to be insubstantial.

Table 4. Some criticisms of the PAT.

6. Conclusion

Positive research began in early 1960s and triggered a paradigm shift in accounting literature, using economic models and statistical processing in empirical studies. The PAT is developed by Watts and Zimmerman and is based on work undertaken in economics and is heavily dependent on the efficient market hypothesis, the capital assets pricing model and agency theory. Watts and Zimmerman founded *Journal of Accounting and Economics* in 1978. The three key hypotheses are bonus plan hypothesis, debt hypothesis, and political cost hypothesis.

Management compensation contracts, capital structure of the firm and its exposure to political scrutiny have been the main areas of researches that are concerned with explaining and predicting accounting practice. These three aspects of the theory-oriented main stream researches in accounting allowed accounting researchers to expand the boundaries of their studies to align with theories in the field of economics and management. Positive researchers introduced new rational from the economics literature to analyse the implications of the efficient

market hypothesis for disclosure regulation, to investigate the stock price effects of changes in accounting procedures, and to study the variables that are related to contract political costs.

PAT has been also subjected to severe and numerous criticisms on its research methods, its theoretical foundations, its logic on economics' basis, and its reference to philosophy of science.

Acknowledgements

The author is grateful for the support provided by Galatasaray University Research Fund. [Grant number 16.102.002].

Author details

İdil Kaya

Address all correspondence to: ikaya@gsu.edu.tr

Galatasaray University, Istanbul, Turkey

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