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Earnings management in closed supplementary pension entities

Gerenciamento de resultados em entidades fechadas de previdência complementar

Gestión de resultados en entidades de pensiones privadas cerradas

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Abstract
This article aims to evaluate the existence of earnings management in Brazilian closed supplementary pension funds. Our earnings management hypothesis was tested using a model of specific accruals, using the variable “annual results excluding legal contingencies”, among others, to explain the dependent variable “provisions for legal contingencies”, in a sample of 5,892 observations. We were able to verify that the former explains the latter and that this relationship is positive, which is an argument in favor of our hypothesis. The findings suggest that pension funds choose to make provisions when their plans tend to be in surplus before recognizing these provisions and reverse them when deficits could be revealed. That is, there are indications that managers act opportunistically to artificially improve the economic health of their plans, smoothing out or hiding any possible negative results from their contributors.
Keywords: Opportunistic Behavior, Agency Conflict, Legal Contingencies, Earnings Management, Pension Funds

Resumo
Este artigo tem como objetivo avaliar a existência de gerenciamento de resultados (GR) em planos previdenciários das entidades fechadas de previdência complementar (EFPC) brasileiras. A hipótese de GR foi testada por meio de um modelo de *accruals* específicos, usando, dentre outras, a variável “resultado anual excluído as contingências judiciais”, para explicar a variável dependente “provisões para contingências judiciais”, em uma amostra com 5.892 observações. Foi possível verificar que a primeira explica a segunda e esse relacionamento é positivo, o que é um argumento favorável à hipótese de GR. Os achados sugerem que as EFPC escolhem fazer provisões quando os planos tendem a ser *superavitários* antes do reconhecimento dessas provisões e realizam reversões quando uma situação de *déficit* pode ser divulgada. Ou seja, existem indícios de que os gestores atuam de maneira oportunística para melhorarem artificialmente a saúde econômica dos planos, suavizando ou ocultando eventuais resultados negativos de seus participantes.
Palavras-chave: Comportamento Oportunístico; Conflito de Agência; Contingências Judiciais; Gerenciamento de Resultados; Planos Previdenciários

Resumen
Este artículo tiene como objetivo evaluar la existencia de gestión de resultados (GR) en los planes de pensión de las entidades de pensiones privadas cerradas (EPPC) brasileñas. La hipótesis de GR se contrastó mediante un modelo de acumulaciones específicos, utilizando, entre otras, la variable "resultado anual sin contingencias legales", para explicar la variable dependiente "provisiones para contingencias legales", en una muestra de 5.892 observaciones. Se pudo comprobar que el primero explica al segundo y esta relación es positiva, lo que es un argumento a favor de la hipótesis GR. Los hallazgos sugieren que EPPC eligen por hacer provisiones cuando los planes tienden a tener superávit antes de reconocer estas provisiones y realizar reversiones cuando se puede revelar una situación de déficit. Es decir, hay indicios de que los gestores actúan de manera oportunista para mejorar artificialmente la salud económica de los planes, suavizando u ocultando cualquier resultado negativo a sus participantes.
Palabras clave: Comportamiento oportunista, Conflicto de agencia, Contingencias legales, Gestión de resultados, Planes de pensiones

1 Introduction

One of the most important issues for users of accounting information has to do with an organization's earnings, that is its net profits. It is based on this information that shareholders and stakeholders evaluate whether their expectations for this organization's performance during a given period have been successful (Flores, Braunbeck & Carvalho, 2018).

Part of these economic earnings are the fruit of adjustments prescribed by accounting norms. Still, the issue is whether these same norms give a certain discretion to managers, who often do not make accounting choices in keeping with their business reality, but rather as a function of other incentives of an economic nature which affect the organization's earnings (Martinez, 2001).

Accruals are all those values which enter the earnings accounts influencing the calculation of profits, but which do not necessarily imply the movement of resources (Lopes & Martins, 2007). In essence, accruals occur due to time differences between the registration of these transactions (accrual basis) and the inflows and outflows of cash (cash basis), or in mathematical terms, accruals refer to the difference between accounting profit and the organization's cashflow (Martinez, 2013)

A portion of accruals is non-discretionary, which is natural in the reality of business, and a portion is discretionary, which is also known as earnings management (Jones, 1991; Dechow, Hutton, Kim & Sloan, 2012). The latter is subject to manager choice, which increases or diminishes them based on motivations which are outside the organization's business, which makes investors, authorities, regulators, auditing firms and executives attentive to the asymmetry of information caused by these choices (Teoh, Welch & Wong, 1998).

According to Paulo (2007), earnings management can be understood as a judgement of value, without violating accounting norms, which can be influenced by the economic-financial situation of the organization at the moment it releases its financial statements. In other words, at bad times it is possible that accruals will be managed to disguise or minimize weaker earnings than expected, and in good times it is possible that managers will choose to diminish reported earnings to make them appear more stable (income smoothing) (Macedo & Kelly, 2016).

Since earnings management consists of intentional alterations in the discretionary values of accounts to meet private interests, managers can manipulate some of these accounts with the objective of maximizing their career prospects and remuneration (DeAngelo, 1988; McNichols & Wilson, 1988; Rodrigues & Martins, 2010).

Alcoforado, Silva and Ávila (2019) affirm that a lack of transparency or the manipulation of non-recurring items in financial reports is one of the main problems that affect the quality of accounting information. In this respect, Dechow and Dichev (2002) also emphasize that the quality of accounting information is inversely related to the degree of earnings management, with an analysis of accruals being an important instrument to discover this practice.

In Brazil, a market that has received more and more attention due to recent reforms is public and private sector supplementary pensions, especially closed supplementary pension funds (Cunha, 2018).

These organizations are non-profit foundations or civil societies which administer pension plans, which are available only to employees/public servants of a sponsor or people who have an association with the settlor (Lei Complementar n. 108, 2001).

The fund can apply the resources of its participants in 6 (six) large investment modalities: i) fixed income; ii) variable income; iii) structured; iv) real estate; v) operations with participants; and vi) exterior, according to the Brazilian Central Bank (BACEN, 2022), and it should always pursue a balance between risk and return, given that its basic function is to provide retirement benefits to its participants (Caetano, Boueri & Sachsida, 2015). For example, fixed income guarantees greater security in terms of investor resources, however, its low rate of return can compromise a good retirement for the participants in the future. The opposite logic holds true for variable income, which seeks to maximize wealth but at the cost of greater risk.

What is certain is that since 2008, due to the trio of the subprime crisis, domestic economic turbulence, and daring actuarial targets, a large portion of Brazilian pension funds have been facing successive deficits, and this scenario can cause fund managers to manage earnings (Teixeira & Rodrigues, 2019).

The objective of this article is to evaluate, through an exploratory model, the existence of earnings management in Brazilian closed supplementary pension funds, considering their provisions for legal contingencies which are not subject to objective rules.

Since these provisions are derived from conditions of uncertainty, the use of judgement in their estimates can affect their liabilities and the results of pension funds (Mello, 2021). In this sense, Accounting Pronouncement 25, Item 43 is clear that considering uncertainty is not a justification for deliberately overvaluing or undervaluing liabilities. For example, in judicial demands related to a revision of benefits, in which pension plans and pension funds are part of the liability side, it is indispensable that there be sufficient evidence in the legislation and/or judicial doctrine for these obligations to be measured in a reasonable manner.

That being so, by virtue of the positive essence of Brazilian law, which permits various interpretations of the same legislation (Bobbio, 2021), discretion may be used in the recognition, measurement and announcement of provisions for legal contingencies in supplementary pension funds.

Thus, this study is justified by the need to verify whether pension fund managers are managing the earnings of pension plans through legal contingencies, which could lead them to hiding potential problems of insolvency. In other words, given the asymmetry of information between managers and participants, by practicing earnings management, managers try to demonstrate their business competence in a spurious manner, in order to maximize their career prospects, power and remuneration within their pension funds.

Thus, we seek to answer: what is the evidence that pension fund managers use accounting discretion to manage the provisions for legal contingencies of pension plans, to disguise or minimize possible problems in terms of insolvency?

2 Theoretical Foundation

Accounting studies that deal with economic motivations which influence the quality of accounting statements generally are based on Agency Theory (Jensen & Meckling, 1976), mainly in terms of the discretionary choices permitted by the norms. However, the maximizing behavior of agents in relation to principals, due to asymmetry of information, is rooted in Consumer Theory as reported in Lambert (2001) and Magee (2001). Thus, the imbalance between the supply and demand for accounting information, which relies on Agency Theory, does not offer new information on the fundamentals of publicizing accounting information even within the context of pension funds.

In turn, the demand for accounting information considering the pension fund market is not just a function of the need for the principal to monitor the agent, but also the behavior of the latter, which has been explained by Modigliani's Life Cycle Theory (1986).

Thus, the two next subsections will seek to discuss manager incentives to divulge accounting information subject to earnings management, and what are the motivations behind savings behavior in pension fund participants and their informational needs.

2.1 Search for a balance between informational supply and demand

The essence of robust corporate governance resides in Agency Theory, which according to Jensen and Meckling (1976), treats the relationships between administrators (agents) and owners or shareholders (principals), who do not share the same objectives.

This theory is based on the economic assumption that in the relationship between the principals and the agents, both parties always seek personal maximization. Thus, if the interests of the agents and the principals diverge, the seeds of an agency conflict will be set (Alchian & Demsetz, 1972; Jensen & Meckling, 1976).

This situation occurs because the interests of the administrators can be contrary to those of the owners, with the former possibly favoring strategies which will enhance their careers, power and remuneration, instead of maximizing the pension fund's value (Fontes Filho, 2004).

According to Chuanrommanee & Swierczek (2007), the divergencies between agents and principals can be softened by the principal's monitoring of the agent's actions. To achieve this, accounting statements serve as an instrument to present the accounts, control and accompany the situation of beneficiary funds by the participants (principals) which ultimately reflects the decisions of the administrators (agents) (Nobre, 2001).

Still, since administrators have control of the information, they tend to make accounting choices which address contractual interests (Holthausen & Leftwitch, 1983; Martinez, 2013). This means that the managers seek to obtain the best career prospects, power and remuneration considering the restrictions imposed on their contracts over the short and medium term, which by nature requires the announcement of

sound financial health for the fund and its plans, or at least the participants' recovery of their investments, regulatory bodies, suppliers and the market in general (Kisser, Kiff & Soto, 2017).

According to Mas-Colell, Whinston and Green (1995) and Varian (2006), the maximization of earnings by an agent can be represented graphically by indifference curves, to the extent that budgetary restrictions are the lines given by the contractual relationships between the principal and the agent. Figure 1 summarizes the maximization of the agent, which is subject to contractual restrictions.

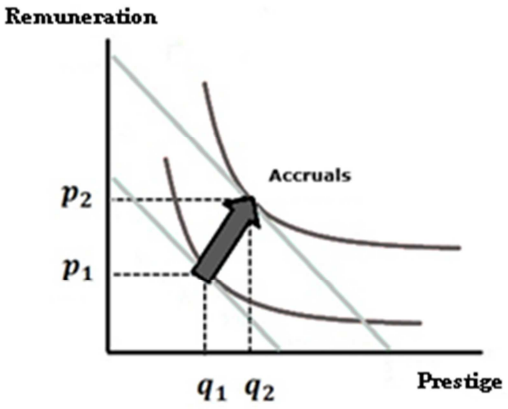

Figure 1. Maximization of the agent's earnings, subject to restrictions
Source: Prepared by the Authors.

Each indifference curve (in dark grey) represents all the combinations of remuneration and prestige for a manager, considering a given line of budgetary restriction (in light grey). Thus, higher levels of remuneration and prestige, or in other words, higher indifference curves are always preferable to lower indifference curves, because for any point on a higher indifference curve the manager will obtain, at least, greater remuneration (*p*) given the same level of prestige (*q*), or greater prestige (*q*) considering the same remuneration (*p*), than a lower indifference curve (Pindyck & Rubinfeld, 2013).

However, for agents to achieve the highest indifference curve, they need to shirt the budgetary restrictions imposed by their contracts to a higher level as well. Thus, since most contracts between managers and companies contain a portion of variable remuneration based on performance, these managers will try to increase the company's earnings in order to maximize their personal returns (Lambert, 2001). In addition, the best earnings provide greater levels of prestige to the owners and the public as well, which signifies that managers with positive economic earnings can shift their budgetary restrictions from an inferior to a superior level (arrow in Figure 1), which results in higher indifference curves (Magee, 2001).

One of the ways to artificially improve short-term economic performance is earnings management. Through accruals, managers tend to benefit from higher variable remuneration and also greater prestige from the point of view of the market, shareholders (participants) and creditors, which results in a shift in their budgetary restrictions from a lower level to a higher level (Varian, 2006). Or in other words, it is precisely discretionary accruals which offer agents greater financial gains and prestige, when the earnings before these accruals are negative, null, or even slightly positive (Rauh, 2006). Thus, in terms of legal contingencies examined in this study, there may be opportunistic behavior by management in the recognition of these provisions as a function of the results of these pension funds. In other words, there will be an incentive to reverse these provisions when there are negative results, because the performance and prestige of the managers will be less affected.

It is important to point out that for closed supplementary pension funds, even though many managers do not receive variable income, the Administrative Boards of these funds normally vote for salary adjustments for board members once a year, based to a large extent on the fund's performance, in accordance with the guidelines defined under Article 35, §7º of Supplementary Law nº 109, of March 21, 2001, which could guarantee an incentive for these executives to resort to earnings management to try to maximize their personal remuneration and prestige.

2.2 Informational demands of closed supplementary pension funds: Modigliani's life cycle theory

Modigliani's Life Cycle Theory considers that savings for retirement comes from the desire of people to maintain a stable standard of living during their lifetime. As a function of this, we can establish a standard of elderly consumption, when there is generally a fall in income coming from work (Duarte, 2015).

Another important factor regarding retirement relies on a precaution mentioned by Keynes (1936), and also emphasized by Modigliani (1986). It states that the uncertainties of life lead people to delay part of their present consumption, with the objective of being able to save more in the future.

Figure 2 illustrates the Life Cycle Theory in its stripped-down version, with income being constant for L years of one's work life (L = 40 years, for example) and equal to one unit until it falls to zero during the R years of retirement (R = 10 years, for example). Consumption then, is constant and comes to be represented by L/(L+R) for the period or 80% of the income available during one's career, with retirement being R/(L+R) or 20% of the income during this period. In this scenario, all of the resources (assets) accumulated during one's career corresponds to 8 (eight) times one's annual work income (40 years x 20% per year) until the period immediately before one's retirement, when one stops saving until the end of one's life (Neri, 2007).

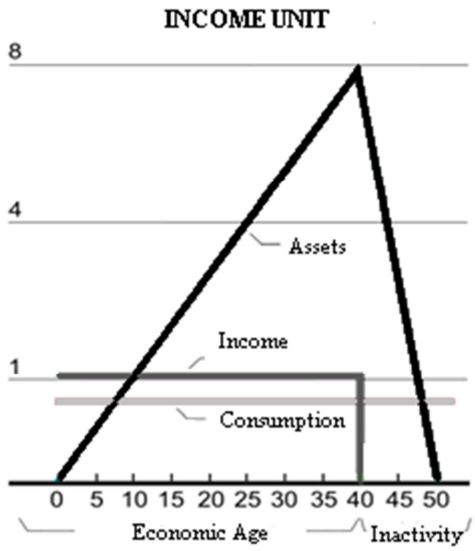

Figure 2. Simplified Version of Modigliani's Life Cycle Theory
Source: Adapted from Neri, Carvalho and Nascimento (1999).
Note Source: Neri, M. C., Carvalho, K., Nascimento, M. (1999). The Life Cycle and Financial Motivations (with special attention to elderly Brazilians). Brasília DF: IPEA, 1999. 21 p. (Text for discussion nº 691).

The saving characteristic according to the Life Cycle Theory is particularly evident in individuals linked to a company or body which sponsors a pension fund (Modigliani, 1986), because, in these cases, a portion of the work income of these people is deducted monthly from their paycheck and is directed towards their pension (Caetano, Boueri & Sachsida, 2015).

Bearing in mind that pension fund participants are savers who are concerned with maintaining their standard of living in the future, they tend to have extra incentives to monitor the performance of their pension plan, which reinforces agency conflict within the hypothesis of earnings management (Teixeira & Rodrigues, 2019).

2.3 Earnings Management and the Research Hypotheses

In the Accounting literature, Healy (1985) was one of the first to study earnings management, seeking to verify whether executives have incentives to select accounting procedures which increase their income, when they are contractually linked to the organization's financial performance. The author states that managers practice earnings management when they are close to maximizing their variable remuneration.

It should be noted that Healy's study (1985) had the merit of introducing two types of procedures to treat accruals. First, he estimated an equation using a proxy for total accruals, and introduced aggregate accrual models, which later evolved into discretionary accruals in studies by important authors such as Jones (1991); Dechow, Sloan and Sweeney (1995); Kang and Sivaramakrishna (1995); Dechow, Richardson and Tuna (2003); Kothari, Leone and Wasley (2005); and Dechow *et al.* (2012). Second, Healy (1985) sought to verify the occurrence of accruals in isolated accounts, such as accounts receivable and inventory accounts, stimulating a second line of research which came to be known as specific discretionary accruals.

This second current was explored in a more detailed manner by authors such as McNichols and Wilson (1988), who analyzed the occurrence of earnings management in provisions for bad debts among financial companies. Their findings pointed out that the investigated financial companies practiced earnings management to increase provisions for bad debts.

Following this line of research, another study of interest was Petroni (1992), who explored the behavior of insurance company claim loss reserves It was discovered that financially weak insurers influenced reserve estimates keeping them lower than other insurers. In addition, the author verified that

managers in insurers which were undergoing regulatory body interventions also reduced their estimates for claim provisions much more than other insurers.

Later Beaver, McNichols and Nelson (2003) examined whether insurers have incentives to practice earnings management in terms of claim provisions in relation to reported accounting earnings. Among the main findings, they concluded that insurers manage claim accruals to avoid reporting small losses.

In Brazil, Rodrigues and Martins (2010) investigated whether the management of accounting information through technical provisions for insurers constitutes a response to economic and taxation regulation. The results indicate that insurer directors also influence these technical provisions in a downward manner when the values of the solvency parameters and taxes are lower, and when these parameters are larger the opposite effect occurs.

In turn, Macedo and Kelly (2016) analyze indications of earnings management by financial institutions which operate in the Brazilian market through the use of credits for suspect liquidations. In general, the authors verified that an increase in the volume of credit operations and market earnings explains the increase in credits for suspect liquidations.

Another work of interest was a study by Boina and Macedo (2018), which evaluated the predictive capacity of discretionary and non-discretionary accruals in predicting future cash flows before and after the implementation of the International Financial Reporting Standards (IFRS) in a sample of 715 companies which were traded openly on the Ibovespa market. The results demonstrated that discretionary and non-discretionary accruals before the IFRS were negative and statistically significant in predicting future cash flows, which indicates earnings management of an opportunistic/contractual nature. After the IFRS, discretionary and non-discretionary accruals were positive and statistically significant in predicting cash flows, which signals a motivation to make discretionary accounting choices from an informational point of view.

According to Kang and Sivaramakrishna (1995), specific accrual models have the advantage that they do not have the limitations which are inherent in aggregate accrual models, which facilitates the development of more compatible models for the problem under investigation. In addition, Cohen, Darrough, Huang and Zach (2011) believe that the subject which covers earnings management for specific accruals is a research field with great development potential.

That being so, this study uses a specific accrual model for the pension plans of all Brazilian closed supplementary pension funds, considering their provisions for legal contingencies, which is one of the accounts subject to discretion in the supplementary pension segment.

With this modeling, we intend to verify whether pension fund managers have implicit contractual incentives which lead them to make accounting choices that will maximize their personal benefits *vis-à-vis* those of the plan participants. This is relevant, because the managing of legal contingency provisions can hide or smooth the announcement of deficits, leading fund participants to believe that their pension funds are in a healthy financial state, when in truth they are not.

Thus, we have developed two research hypotheses, with one contemplating the factors that naturally should explain the constitution or reversal of provisions for legal contingencies (non-discretionary accruals) and another to portray the portion linked to the earnings management issue (discretionary accruals). The first, Hypothesis H1 considers that the variables covered assets, maturity and plan type have a direct portion of responsibility for the constitution or reversal of provisions for legal contingencies in Brazilian pension funds.

Hypothesis H1: The covered assets, maturity and plan type influence the constitution or reversal of provisions for legal contingencies in Brazilian pension funds.

It is expected that plans with large amounts of covered assets will offer greater tranquility and security in terms of the concession of retirement benefits to their participants, which will reduce the quantity of legal actions against these plans (Asthana, 1999; Kisser, Kiff & Soto, 2017). In terms of maturity, it is understood that “older” plans, that is those with more participants receiving benefits than contributing, will increase the possibility of actuarial imbalances, which could lead to a scarcity of resources for the plan. In this scenario, there are incentives for more and more participants to sue pension funds, seeking to guarantee their benefits and/or reduce extraordinary contributions to cover deficits (Kisser, Kiff & Soto, 2017). In turn, for plan types, we consider plans with defined contributions (DC) which do not have actuarial risks and are financially balanced and less affected by lawsuits than plans with defined benefits (DB) and variable contributions (VC) which have actuarial risks derived from their guarantee of lifelong income (Teixeira and Rodrigues, 2021).

Hypothesis H2 investigates whether the annual results variable for these plans, excluding legal contingencies, is capable of explaining the recognition or lack thereof of portions of the provisions for legal contingencies. In the absence of earnings management, the plan results should not interfere with the constitution or reversion of provisions for legal contingencies.

H2: The annual results of plans excluding legal contingencies are capable of explaining the constitution or reversal of provisions for legal contingencies.

The confirmation of this hypothesis would indicate that pension fund managers increase or reduce provisions for legal contingencies motivated by their plan's results. This signifies that the managers of these pension funds have incentives to improve the results of their plans through their own discretion to maximize their career prospects, power and remuneration (Rauh, 2006).

3 Methodology

The data collected refers to a total of 5,892 observations made during the years 2016 to 2021. All of the information necessary to prepare specific accrual models was extracted from the pension plan balance sheets of these Brazilian closed supplementary pension funds which are available at: https://www.gov.br/previc/pt-br/dados-abertos/copy_of_balancetes-contabeis/balancetes-de-planos. Table 1 provides the final sample which was investigated excluding absent values for the study's variables.

Table 1
Selected Sample

Detail/Year	2016	2017	2018	2019	2020	2021	Total
Initial Sample	1,138	1,141	1,138	1,156	1,178	1,184	6,935
Absent Observations	(184)	(174)	(179)	(163)	(175)	(168)	(1,043)
Final Sample	**954**	**967**	**959**	**993**	**1,003**	**1,016**	**5,892**

Source: Prepared by the Authors.

Since the model's dependent variable, provisions for legal contingencies related to pension management, presented 3,983 observations with values equal to 0 (zero) out of a total of 5,892, we needed to adopt a Tobit model which explicitly considers the existence of censure or limitations in the regression. In other words, censure refers to an accumulation of identical values for the dependent variable, which makes the least ordinary squares procedure inappropriate. Thus, we used the maximum likelihoode method as an alternative (Gujarati & Porter, 2012). Equation 1 presents the proposed empirical model which was developed using the *RStudio* software*:*

$$LegCont_{it}=\alpha_{it}+\beta_1 CovAssets_{it}+\beta_2 PlanMat_{it}+\beta_3 DCDummy_{it}+\beta_4 AnnualRes_{it}+\varepsilon_{it}$$

in which: *i* refers to the plan and *t* refers to the time. The dependent variable (*LegCont*) refers to the provisions for legal contingencies and the explanatory variables are, respectively, the plan's covered assets (*CovAssets*), the benefit plan maturity (*PlanMat*); a dummy variable to discriminate plans with defined contributions (DC) from defined benefit (DB) plans and variable contribution (VC) plans, which have actuarial risks which are inherent in their structures; and the annual results of plans excluding legal contingencies (*AnnualRes*). The variables *LegCont* and *CovAssets* were deflated by total assets, in accordance with a procedure similar to that employed by Beaver and Engel (1996). *PlanMat,* meanwhile*,* is a variable expressed as a percentage, which is obtained from the quotient of benefits conceded over the total benefits (conceded benefits plus the benefits that will be conceded). Finally, *AnnualRes* was scaled based on the plan's covered assets.

The proposed empirical model is specific and because of this it is of an exploratory nature, and it does not apply traditional earnings management models. By doing this, we seek to capture the influence of discretion on the plans' earnings. Figure 3 displays a summary of the explanatory variables proposed by the model.

It is important to point out that the specific accrual model is made up of two blocks of variables, representing this study's two hypotheses. The first refers to the natural components which affect the formation of the variable to be explained (non-discretionary accruals). Considering the provisions for legal contingencies, these variables are represented by the plan's covered assets, its maturity, and a dummy variable for DC plans (H1). The second block is made up of variables which evaluate whether there is or is not earnings management (discretionary accruals), and in the case under consideration, it only considers the annual results of the plan excluding legal contingencies (H2).

For H1 it is expected that increments in covered assets for DC type plans will reduce the need for provisions for legal contingencies. This would happen because a larger quantity of guaranteed assets and the impossibility of deficits will give the contributors more security. In terms of maturity, there is a tendency for "older" plans, which are generally of the DB type, to have deficits because they have actuarial imbalances which often makes it impossible to make full payments to retirees and contracted pensions, which contributes to the increase in the number of lawsuits.

Variable	Description	Expected Sign	Justification	Reference
$CovAssets_{it}$	Plan's Covered Assets	-	Plans which have covered assets which are greater than their mathematical provisions are considered to be in surplus. Thus, it is expected that provisions for legal contingencies will be negatively affected by the plan's covered assets, considering that the more assets it has (or the greater its financial health) the less reason there will be for lawsuits against the plan.	Asthana (1999) and Kisser, Kiff & Soto (2017)
$PlanMat_{it}$	Plan Maturity	+	Most of the "older" plans have costing rules based on actuarial assumptions that often do not come to pass, which leads to their having deficits. Thus, the older the benefit plan, the greater the probability that lawsuits will be filed by pensioners and their dependents, increasing legal contingencies.	Kisser, Kiff & Soto (2017)
$DCDummy_{it}$	Dummy for Defined Contribution Plans	-	Defined Contribution (DC) Plans are financially balanced, and that being so they are expected to have fewer lawsuits in comparison with plans that have a portion of actuarial risk (DB and VC Plans).	Caetano, Boueri & Sacshida (2015) and Teixeira & Rodrigues (2021)
$AnnualRes_{it}$	Annual Plan Results Excluding Legal Contingencies	+	Investigates whether the plan's annual results (surplus, deficit or equilibrium) are used in decision making regarding setting aside provisions for legal contingencies.	-

Figure 3. Description of the Explanatory Variables Utilized
Source: Prepared by the Authors.

In turn, the theoretical logic of H2 is that the agent will evaluate the annual results of the plan before recognizing or reverting the accruals with provisions for legal contingencies. Thus, if the plan's results before their announcement are poor, the managers will not make the necessary provisions and/or will revert part of the provisions for legal contingencies, but if the results are positive, they will encourage managers to recognize these provisions and avoid reverting them.

This hypothesis investigates whether funds choose the best moment to make their provisions for legal contingencies, with their being influenced by the plan's results. In this sense, our findings indicate that pension fund executives opt to make these provisions when they have a surplus and avoid provisions or reverse them when their plans are in deficit.

As a result, through the incentives to recognize more or less accruals or even the reversal of previously created accruals, managers are demonstrating an artificial managerial skill, which may increase their career prospects, power and remuneration within the pension fund. Thus, for the earnings management hypothesis to be accepted, the variable *AnnualRes* should be positive and statistically significant to explain the provisions for legal contingencies.

The last fundamental aspect of this study resides in the differences among the nomenclatures of the plans (plan types) and the existence or non-existence of actuarial risk in each plan (the plan's essence). According to Caetano, Boueri and Sacshida (2015) and Teixeira and Rodrigues (2021), defined benefit (DB) plans and variable contribution (VC) plans have risky benefits because they guarantee lifelong income to pensioners. In turn, defined contribution (DC) plans do not possess this portion of risk, given that they offer a given income for a predetermined period of time.

However, even though various plans present the "DC" nomenclature, they have regulations that permit their conversion from defined benefit or defined period to lifelong income, which thus gives them a "VC" essence, which risks having deficits.

That being so, in order to discover which DC plans have a VC essence, we made two calculations. Initially, we verified whether the plan's results should be equal to 0 (zero) for them to present an equilibrium, or in other words, neither a surplus nor a deficit. After this we calculated the quotient of the covered assets over the sum of benefits conceded and the benefits to be conceded, which reveals the cumulative situation of the plan which should be equal to 1 (one) for there to be an equilibrium. From the outset, for a plan with a DC nomenclature to really be considered a "pure" DC plan, that is one without actuarial risks, it has to simultaneously satisfy the two conditions of equality cited above. If this does not occur, it is a DC plan with a VC essence. In this study, the constructed dummy variable serves to segregate pure DC plans from the others.

4 Results

4.1 Presentation of the results

Below we present the descriptive statistics of the variables considered in this study (Table 2). The provisions for legal contingencies (*LegalCont*) and the assets covered by the plans (*CovAssets*) were deflated by total assets, while the maturity of the plans (*PlanMat*) is expressed as a percentage and the annual results of the plans excluding legal contingencies (*AnnualRes*) is scaled based on the covered assets.

Table 2
Descriptive Statistics

Variable	Observations	Avg.	Median	Std. Dev.	Min.	Max.
LegalCont	5,892	0.00	0.00	0.02	0.00	0.59
CovAssets	5,892	0.93	0.97	0.11	0.00	1.00
PlanMat	5,892	0.39	0.30	0.35	0.00	1.00
AnnualRes	5,892	0.00	0.00	0.08	-2.27	1.80

Source: Research data.
Note: LegalCont: provisions for legal contingencies; CovAssets: assets covered by the plans; PlanMat: maturity of the benefit plans; and AnnualRes: annual results of plans excluding legal contingencies.

From the descriptive statistics, it is possible to perceive that the provisions for legal contingencies vary from 0% to 59% of the plans' total assets. The average for covered assets is 93% of total assets, and the average maturity was 39% of the benefits conceded over the total benefits (benefits conceded + benefits to be conceded), with this percentage ranging from 0% to 100% depending on the plan. Finally, we verified that the annual results of the analyzed plans varied from a deficit of 227% of the covered assets to a surplus of 180% of the covered assets.

In addition, we prepared a Pearson correlation matrix to determine whether the quantitative independent variables of the proposed model possessed correlations less than 0.3 (Callegari-Jacques, 2003). As can be seen in Table 3, no correlation was larger than 0.14, which guaranteed the inexistence of redundant information among the model's explanatory variables.

Table 3
Correlation Matrix

Variables	CovAssets	PlanMat	AnnualRes
CovAssets	1.0000	-0.1342	-0.0308
PlanMat	-0.1342	1.0000	0.0447
AnnualRes	-0.0308	0.0447	1.0000

Source: Research data.

The estimate for Equation 1 used a Tobit model, which is the most appropriate methodology to deal with censored dependent variables as in the case in question. Table 4 presents the regression's results.

Table 4
Results of the Tobit Model Regression.

Dependent Variable: LegalCont				
Independent Variables	**Estimate**		**Marginal Effects**	
	Coefficients	**Std. Error**	**Coefficients**	**Std. Error**
Constant	0.022479***	(0.005608)		
CovAssets	-0.079861***	(0.005702)	-0.01794993***	(0.0013247)
PlanMat	0.058372***	(0.002466)	0.01311988***	(0.00056858)
DCDummy	-0.008521***	(0.002015)	-0.00191515***	(0.00044994)
AnnualRes	0.018176**	(0.007545)	0.00408529**	(0.00169902)
Sigma Log	-3.16523***	(0.01671)		
Nº Observations	5,892			
Left Censored Data	3,983			
Uncensored Data	1,909			
Log-likelihood	1,921.92			

***Significant at 1%, **significant at 5% and *significant at 10%.
Note: Sigma Log is a logical value of the model which indicates whether the variances should be in logarithms.
Source: Research data.

The "estimated" model showed that all of the explanatory variables had significant coefficients with the expected signs. For the first block of variables which represents *H1*, it was possible to confirm that the covered assets, the plan being of a pure DC type, and maturity are relevant factors for portraying the non-discretionary portion of accruals related to provisions for legal contingencies.

The second block, which represents *H2* and only consists of the annual results of the plan excluding the provisions for legal contingencies, demonstrates that the results obtained by the plans motivate the formation of discretionary accruals by the pension funds. If this were not true, this variable would not be statistically significant due to the absence of theoretical causality between the plans' results and the provisions for legal contingencies.

4.2 Discussion of the results

The numeric interpretation of the Tobit model should be made based on its "Marginal Effects", which express the impacts of variations in the independent variables on the dependent variable (Gujarati & Porter).

In terms of the coefficients of the independent variables in the first block representing *H1*, which theoretically explain the provisions for legal contingencies, we verified that all were statistically significant with the expected signs. The negative coefficient of the *CovAssets* variable shows that a R$ 100 increase in the plan's covered assets reduces the legal demands on it by almost R$ 1.80. This result expresses the psychological effect that comes from the accumulation of assets in the Life Cycle Theory, which illustrates that plans with a larger volume of financial resources make their contributors feel more secure and satisfied, which reduces lawsuits.

The *PlanMat* variable has a positive coefficient, which is what was proposed in theory. For every R$ 100 that the plan concedes in new benefits, its provisions for legal contingencies increase by approximately R$ 1.30. In other words, younger plans which are in the accumulation phase tend to have fewer problems with insolvency, which results in a lower number of lawsuits. On the other hand, more mature plans that have a net outflow of funds are more likely to become unbalanced, which stimulates retirees and pensioners to embark on lawsuits to protect themselves from deficit payments, revised benefits etc.

This finding demonstrates the effects of the two types of movements which are reflected in the Life Cycle Theory's asset curve in terms of legal contingencies, that is the calm of the accumulation phase, in which individuals are only concerned with saving, and the uncertainties related to the durability of their pensions in the distribution phase.

The *dummy* variable for pure DC plans presented a significant negative coefficient, confirming that they do not possess a portion of the benefit risk and tend to have lower provisions for legal contingencies compared to DB and VC plans. In other words, the results demonstrate that the chances of contributors filing lawsuits against these pension plans without risky benefits reduce provisions by R$ 0.19 for every R$ 100, compared to plans that guarantee these benefits, which corroborates the works of Caetano, Boueri and Sacshida (2015) and Teixeira and Rodrigues (2021).

In relation to the independent variable of the second block representing *H2*, *AnnualRes*, which tests the earnings management hypothesis, we can state that for every R$ 100 of positive results before the recognition of provisions for legal contingencies, the plans have incentives to increase their provisions by almost R$ 0.41, with the opposite also being true. In other words, the recognition decisions in terms of discretionary accruals for legal contingencies were affected by the plan results. If the contrary were true, there would be no reason why the results would explain the provisions for legal contingencies.

Since the findings were favorable to the earnings management hypothesis, it is possible to state that there are indications that the studied pension fund managers may be acting in an opportunistic manner in terms of their discretionary accounting choices to artificially improve the economic health of their plans to please their contributors and other stakeholders, as Asthana (1999), Rauh (2006) and Kisser, Kiff and Soto (2017) emphasize.

Put another way, the practice of managing provisions for legal contingencies demonstrates that an incentive exists to recognize these provisions when the plan's results are positive, and not recognize or revert them when there are negative results to hide or minimize plan deficits.

By artificially generating better results for their plans through specific discretionary accruals, these agents are trying to maximize their career prospects, power and remuneration at the pension fund, because in this way they can shift the budgetary restrictions imposed by their contracts to a higher level, which will also result in higher indifference curves, as demonstrated by Mas-Colell, Whinston and Green (1995), Varian (2006) and Pindyck and Rubinfeld (2013).

In sum, the proposed specific accrual model proves to be appropriate for this study, because it has made it possible to investigate the hypothesis of the existence of earnings management in Brazilian pension plans considering their provisions for legal contingencies. These findings can help new studies related to closed supplementary pension funds, especially since this subject has not been thoroughly explored in Brazil.

5 Final Considerations

This article has sought to analyze the existence of indications of earnings management in Brazilian closed supplementary pension funds, based on their provisions for legal contingencies. When positive discretionary accruals exist for these contingencies, pension fund managers tend to improve their plans' results in an artificial manner.

Considering an agency conflict context, where administrators (agents) have control of the information that is made available to the principal, they tend to make accounting choices which further their contractual interests. This means that managers observe their career prospects, power and remuneration when they consider restrictions imposed by the contracts over the short and medium term, which necessarily means showing good financial health for their pension plans, or at least, the financial recovery of the contributors' money.

Thus, this type of earnings management can be used to hide or smooth over problems in terms of plan imbalances in the eyes of their contributors who are concerned with maintaining their future standard of consumption as indicated by Modigliani's Life Cycle Theory.

The results show that the provisions for legal contingencies are influenced by all of the variables in the first block which represents H1, which have a causal theoretical relationship with the dependent variable. In terms of the second block, which tests the earnings management hypothesis H2, we verified that the "annual results excluding legal contingencies" were significant with the expected sign, suggesting that the formation of discretionary accruals for legal contingencies depends on the plans' annual results, because when the contrary is true, the *AnnualRes* variable should not explain the behavior of the *LegalCont* variable due to the absence of a theoretical relationship between the two.

This should be noted from the fact that pension fund managers choose the best moment to make their provisions for legal contingencies, or in other words, the provisions end up being motivated by the plan results. In this sense, our findings may indicate that managers prefer to make these provisions when they are in surplus situations and avoid them when they are in deficit situations. Put another way, there are indications that plan surpluses stimulate the formation of these provisions, but deficits stimulate the non-recognition of these provisions or their reversion.

As a consequence, it is possible to infer that the studied pension fund managers are improving the results of their pension plans, managing their provisions for legal contingencies. This fact indicates that the administrators of these plans are acting in an opportunistic manner by making accounting choices that tend to maximize their career prospects, power and remuneration, as envisaged by economic theory.

It should be noted that in a scenario in which the demand for accounting information is influenced by Modigliani's Life Cycle Theory, the asymmetry of information between the agent and the principal takes on proportions which extrapolate market relationships, amplifying the agency conflict. Thus, if on one hand the agent offers information which is partially subject to discretionary choices to the principal, the principal's view of the plan's real situation may be hidden by certain distortions, which signifies that structural problems in pension plans could be being minimized at the present, at the corrected price of their future revelation.

A limitation of this study resides in the utilization of only one specific accrual model, with it being important for future studies to propose other specific accrual models for the Brazilian closed supplementary pension plan market as a way to ratify the existence or non-existence of agency conflict in this sector.

This article also sheds light on an issue which has been the subject of little debate in academia, which is earnings management in the provisions for legal contingencies in closed supplementary pension fund plans. The portion which is discretionary is empowered by managers when this type of provision has the potential to harm contributors, hiding possible plan insolvency issues which require supervision by the National Superintendent's Office for Supplementary Pension Funds, the sector's supervising body.

Finally, even though we have found earnings management based on provisions for legal contingencies in Brazilian pension funds, the impact of this was on average just 0.41% for each monetary unit, which casts doubt about whether these provisions are used in isolation to alter the results of these plans. That being so, we recommend that new works investigate earnings management in other pension plan accounts, such as mathematical provisions, which represent obligations to the contributors and are measured based on various assumptions which possess a certain degree of discretion.

References

Alchian, A. A., & Demsetz, H. (1972). Production, Information Costs, and Economic Organization. *American Economic Review,* Pittsburgh, USA**,** 62(5), 777-795. https://doi.org/10.1109/EMR.1975.4306431

Alcoforado, E. A. G., Silva, K. A., & Ávila, L. A. C. (2019). Gerenciamento de resultados no setor de locação imobiliária. *Enfoque – Reflexão Contábil*, 38(2), 103-122. doi: https://doi.org/10.4025/enfoque.v38i2.41177

Asthana, S. (1999). Determinants of funding strategies and actuarial choices for defined-benefit pension

plans. *Contemporany Accounting Research*, 16(1), 39-74. doi: https://doi.org/10.1111/j.1911-3846.1999.tb00574.x

Banco Central do Brasil [BACEN] (2022). Resolução nº 4.994, de 24 de março de 2022. Recuperado em 12 novembro, 2022 de https://www.gov.br/economia/pt-br/orgaos/entidades-vinculadas/autarquias/previc/regulacao/normas/resolucoes/resolucoes-cmn/resolucao-cmn-ndeg-4-994-de-24-de-marco-de-2022.pdf/view#:~:text=Disp%C3%B5e%20sobre%20as%20diretrizes%20de,entidades%20fechadas%20de%20previd%C3%AAncia%20complementar.

Beaver, W. H., & Engel, E. E. (1996). Discretionary behavior with respect to allowances for loan losses and the behavior of security prices. *Journal of Accounting & Economics*, 22, 177-206. doi: https://doi.org/10.1016/S0165-4101(96)00428-4

Beaver, W. H., McNichols, M. F., & Nelson, K. K. (2003). Management of the loss reserve accrual and the distribution of earnings in the property-casualty insurance industry. *Journal of Accounting & Economics*, 35, 347-373. doi: https://doi.org/10.1016/S0165-4101(03)00037-5

Bobbio, N. (2021). *O positivismo jurídico: lições de filosofia do direito*. São Paulo: Edipro.

Boina, T. M., & Macedo, M. A. S. (2018). Capacidade preditiva de accruals antes e após as IFRS no mercado acionário brasileiro. *Revista de Contabilidade e Finanças*, 29(78), 375-389. doi: https://doi.org/10.1590/1808-057x201806300

Caetano, M. A., Boueri, R., & Sachsida, A. (2015). Economias de escala e escopo na previdência complementar fechada brasileira. *Economia Aplicada*, 19(3), 481-505. doi: https://doi.org/10.1590/1413-8050/ea132623

Callegari-Jacques, S. M. (2003). *Bioestatística: princípios e aplicações*. Porto Alegre: Artmed.

Chuanrommanee, W., & Swierczek, F. W. (2007). Corporate governance in ASEAN financial corporations: Reality or illusion? *Corporate Governance*, 15(2), 272–283. doi: https://doi.org/10.1111/j.1467-8683.2007.00559.x

Cohen, D., Darrough, M. N., Huang, R., & Zach, T. (2011). Warranty Reserve: Contingent Liability, Information Signal, or Earnings Management Tool? *The Accounting Review*, 86(2), 569–604. doi: 10.2308/accr.00000021Cunha, C. M. P. (2018). Sponsor bias in pension fund administrative expenses: The Brazilian experience. *Brazilian Administration Review*, 15(1), e170072. doi: https://doi.org/10.1590/1807-7692bar2018170072

DeAngelo, L. (1988) Discussion of Evidence of Earnings Management from the Provision for Bad Debts. *Journal of Accounting Research*, 26(suppl.), 32-40. doi: https://doi.org/10.2307/2491177

Dechow, P. M., & Dichev, I. (2002). The Quality of the Accruals and Earnings: the role of accruals estimation errors. *The Accounting Review*, 77(1), 35-59. doi: https://doi.org/10.2139/ssrn.277231

Dechow, P. M., Hutton, A. P., Kim, J. H., & Sloan, R.G. (2012). Detecting earnings management: a new approach. *Journal of Accounting Research*, 50(2), 275-334. doi: https://doi.org/10.1111/j.1475-679X.2012.00449.x

Dechow, P. M., Richardon, S. A., & Tuna, I. (2003). Why are earnings kinky? An examination of the earnings management explanation. *Review of Accounting Studies*, 8, 355-384. doi: https://doi.org/10.1023/A:1024481916719

Dechow, P. M., Sloan, R. G., & Sweeny, A. P. (1995). Detecting earnings management. *The Accounting Review*, 70(2), 193-225. Recuperado em 03 março, 2019 de https://www.jstor.org/stable/248303?seq=1

Duarte, T. N. (2015). *Balanceamento atuarial per capita e perfil de investimentos dos planos de benefícios das entidades fechadas de previdência complementar: uma aplicação da teoria do ciclo de vida com dados em painel*. 77 f. Dissertação (Mestrado em Economia do Setor Público) – Faculdade de Economia, Administração e Contabilidade, Universidade de Brasilia – DF, 2015.

Flores, E., Braunbeck, G., & Carvalho, N. (2018). *Teoria da contabilidade financeira: fundamentos e*

aplicações. São Paulo: Atlas.

Fontes Filho, J. R. (2004). *Estudo da Validade de Generalização das Práticas de Governança Corporativa ao Ambiente dos Fundos de Pensão*: uma análise segundo as teorias da agência e institucional. 185 f. Tese (Doutorado em Administração) – Escola Brasileira de Administração Pública e de Empresas, Fundação Getúlio Vargas – RJ, 2004.

Gujarati, D. N., & Porter, D. C. (2012). *Econometria básica*. 5a ed. Porto Alegre: AMGH.

Healy, P. M. (1985). The effect of bonus schemes of accounting decision. *Journal of Accounting & Economics*, 7, 85-107. doi: https://doi.org/10.1016/0165-4101(85)90029-1

Holthausen, R., & Leftwich, R. (1983). The economic consequences of accounting choices. *Journal of Accounting & Economics*, 5, 77-117. doi: https://doi.org/10.1016/0165-4101(83)90007-1

Jensen, M. C., & Meckling, W. H. (1976). Theory of the firm: managerial behavior, agency costs and ownership structure. *Journal of Financial Economics*, Amsterdam, The Netherlands, 3(4), 305-360. doi: https://doi.org/10.1016/0304-405X(76)90026-X

Jones, J. J. (1991). Earnings management during import relief investigations. *Journal of Accounting Research*, 29(2), 193-228. doi: https://doi.org/10.2307/2491047

Kang, S. H., & Sivaramakrishanan, K. (1995). Issues in testing earnings management: an instrumental variable approach. *Journal of Accounting Research*, 33(2), 353-367. doi: https://doi.org/10.2307/2491492

Keynes, J. M. (1936). *The General Theory of Employment, Interest and Money*. London: Macmillan.

Kisser, M., Kiff, J., & Soto, M. (2017). Do managers of U.S. defined benefit pension plan sponsors use regulatory freedom strategically? *Journal of Accounting Research*, 55(5), 1213-1255. doi: https://doi.org/10.1111/1475-679X.12182

Kothari, S. P., Leone, A. J., & Wasley, C. E. (2005). Performance matched discretionary accrual measures. *Journal of Accounting and Economics*, 39(1), 163-197. doi: https://doi.org/10.1016/j.jacceco.2004.11.002

Lambert, R. A. (2001). Contracting theory and accounting. *Journal of Accounting & Economics*, 32, 3-87. doi: https://doi.org/10.1016/S0165-4101(01)00037-4

Lei Complementar nº 108, de 29 de maio de 2001. *Diário Oficial [da] República Federativa do Brasil*, Poder Executivo, Brasília, DF, 30 mai. 2001. Seção 1, p. 1. Recuperado em 05 janeiro, 2019 de http://www.planalto.gov.br/ccivil_03/leis/lcp/lcp108.htm

Lei Complementar nº 109, de 29 de maio de 2001. *Diário Oficial [da] República Federativa do Brasil*, Poder Executivo, Brasília, DF, 30 mai. 2001. Seção 1, p. 3. Recuperado em 08 dezembro, 2022 de http://www.planalto.gov.br/ccivil_03/leis/lcp/lcp109.htm

Lopes, A. B., & Martins, E. (2007). *Teoria da contabilidade: uma nova abordagem*. São Paulo, SP: Atlas.

Macedo, M. A. S., & Kelly, V. L. A. (2016). Gerenciamento de resultados em instituições financeiras no Brasil: uma análise com base em provisões para crédito de liquidação duvidosa. *Revista Evidenciação Contábil & Finanças*, 4(2), 82-96. doi: https://doi.org/10.18405/recfin20160206

Magee, R. P. (2001). Discussion of "Contracting theory and accounting". *Journal of Accounting & Economics*, 32, 89-96. doi: https://doi.org/10.1016/S0165-4101(01)00020-9

Martinez, A. L. (2001) *"Gerenciamento" dos resultados contábeis: estudo empírico das companhias abertas brasileiras*. 150 f. Tese de Doutorado em Ciências Contábeis, Faculdade de Economia, Administração e Contabilidade de Ribeirão Preto, Universidade de São Paulo, Ribeirão Preto. Recuperado em 02 março, 2019 de https://www.teses.usp.br/teses/disponiveis/12/12136/tde-14052002-110538/pt-br.php

Martinez, A. L. (2013). Gerenciamento de resultados no Brasil: um survey da literature. *Brazilian Business Review*. Vitória, 10(4), 1-31, 2013. doi: https://doi.org/10.15728/bbr.2013.10.4.1

Mas-colell, A., Whinston, M., & Green, J. (1995). *Microeconomic theory*. Oxford University Press, 1008 p.

McNichols, M., & Wilson, G. P. (1988) Evidence of earnings management from the provision for bad debts. *Journal of Accounting Research*, 26 (supplement), 1-31. https://doi.org/10.2307/2491176

Mello, L. B. (2021). Exigível contingencial. In A. X. Beiruth, F. M. Costa, F. C. Galdi, & G. A. Souza Júnior (Orgs.). *Manual de contabilidade aplicado às EFPC* (1a ed., Cap. 9, pp. 182-194). São Paulo: PoloBooks.

Modigliani, F. (1986). Life cycle, individual thrift and the wealth of nations. *American Economic Review*, 76(3), 297-313. doi: https://doi.org/10.1126/science.234.4777.704

Neri, M. C., Carvalho, K, & Nascimento, M. (1999). Ciclo de Vida e Motivações Financeiras (com especial atenção aos idosos brasileiros). Brasília DF: IPEA, 1999. 21 p. (Texto para discussão nº 691). Recuperado em 03 março, de 2019 de https://www.ipea.gov.br/portal/index.php?option=com_content&view=article&id=3980

Neri, M. C. (2007). Renda, Consumo e Aposentadoria: evidências, atitudes e percepções. Rio de janeiro RJ: FGV, 2007, 27 p. (Texto para discussão nº 663). Recuperado em 03 março, 2019 de https://cps.fgv.br/renda-consumo-e-aposentadoria-evidencias-atitudes-e-percepcoes

Nobre, W. J. (2001). *As entidades fechadas de previdência privada: um estudo sobre a divulgação das informações contábeis*. 285 f. Tese (Doutorado em Controladoria e Contabilidade) – Faculdade de Economia, Administração e Contabilidade, Universidade de São Paulo, São Paulo, SP, Brasil.

Paulo, E. (2007). *Manipulação das Informações Contábeis: uma análise teórica e empírica sobre os modelos operacionais de detecção de gerenciamento de resultados*. 257 f. Tese (Doutorado em Controladoria e Contabilidade) – Faculdade de Economia, Administração e Contabilidade, Universidade de São Paulo, São Paulo, SP, Brasil. Recuperado em 05 março, 2019 de https://www.teses.usp.br/teses/disponiveis/12/12136/tde-28012008-113439/pt-br.php

Petroni, K. (1992). Optimistic reporting in the property-casualty insurance industry. *Journal of Accounting & Economics*, 15, 485-508. doi: https://doi.org/10.1016/0165-4101(92)90003-k

Pindyck, R., & Rubinfeld, D. (2013). *Microeconomia*. 8a ed. São Paulo: Pearson.

Pronunciamento técnico CPC 25, de 26 de julho de 2009. Provisões, passivos contingentes e ativos contingentes. Recuperado em 12 novembro, 2022 de http://www.cpc.org.br/CPC/Documentos-Emitidos/Pronunciamentos/Pronunciamento?Id=56

Rauh, J. D. (2006). Investment and financing constraints: evidence from the funding of corporate pension plans. *The Journal of Finance*, 61(1), 33-71. doi: https://doi.org/10.1111/j.1540-6261.2006.00829.x

Rodrigues, A., & Martins, E. (2010). Gerenciamento da informação contábil através das provisões técnicas constituídas por sociedades seguradoras. *Revista Universo Contábil*, 6 (1), 46-66. doi: https://doi.org/10.4270/ruc.20106

Teixeira, R. F. A. P., & Rodrigues, A. (2019). *Despesas Administrativas na Previdência Fechada Brasileira: Economias de Escala e Escopo sob a ótica do Ciclo de Vida de Modigliani*. *In:* 9° Congresso UFSC de Controladoria e Finanças, 2019, Florianópolis. Anais do 9° Congresso UFSC de Controladoria e Finanças. Recuperado em 19 outubro, 2019 de http://dvl.ccn.ufsc.br/10congresso/anais/9CCF/20190715140702.pdf

Teixeira, R. F. A. P., & Rodrigues, A. (2021). Economias de escala nas entidades fechadas de previdência complementar brasileiras: existe um tamanho ótimo? *Revista Contemporânea de Contabilidade*, Florianópolis, 18(46), 97-112. doi: https://doi.org/10.5007/2175-8069.2021.e70701

Teoh, S. H., Welch, I., & Wong, T. J. (1998). Earnings management and the underperformance of seasoned equity offerings. *Journal of Financial Economics*, 50, 63-99. doi: https://doi.org/10.1016/S0304-405X(98)00032-4

Varian, H. R. (2006). *Microeconomia: princípios básicos*. 6a ed. Rio de Janeiro: Campus Elsevier.

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