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ANALYSIS OF THE MARKET DYNAMIC OF PENSION FUNDS STRUCTURES IN BRAZIL - 2003 TO 2014

ANÁLISE DA DINÂMICA DO MERCADO DE
PREVIDÊNCIA COMPLEMENTAR ABERTA – 2003 A
2014

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Abstract: In Brazil, access to information on social security and open and closed supplementary pensions has dramatically increased as the sector has developed. The objective of this study is to analyse the market dynamic of open complementary pension fund in independent insurance companies. As far as methodology is concerned, a conjugation of a quantitative analysis of existing secondary data and a qualitative approach applying a questionnaire whose objective was to gather the perceptions of independent brokers acting in the sector, was employed. A final methodological procedure consisted in the examination of the existence of possible correspondence between the dynamic identified by the quantitative approach and the perceptions presented by the brokers. The conclusion that one arrived at was that, of the six characteristics that portray the evolutionary dynamic of complementary pension fund identified through the quantitative analysis, only one was ratified by the qualitative analysis.

Keywords: Social security, Open Complementary Pension fund, Market Dynamic, Brokers, Insurance Company.

Resumo: No Brasil, o acesso às informações envolvendo a previdência social e a previdência complementar aberta e fechada tem aumentado vertiginosamente à medida que o setor se desenvolve. Este trabalho tem como objetivo analisar a dinâmica do mercado de previdência complementar aberta nas seguradoras independentes. Do ponto de vista metodológico, utilizou-se uma conjugação de uma análise quantitativa de dados secundários existentes e de uma abordagem qualitativa mediante aplicação de um questionário cujo objetivo foi o de levantar as percepções de corretores independentes que atuam no setor. Um procedimento metodológico final consistiu no exame da existência de uma possível consistência entre a dinâmica identificada pela abordagem quantitativa e as percepções apresentadas pelos corretores. A conclusão a que se chegou foi a de que, dentre as seis características que retratam a dinâmica da evolução da previdência complementar identificadas por meio da análise quantitativa, apenas uma foi ratificada mediante a análise qualitativa.

Palavras-chave: Previdência Social, Previdência Complementar Aberta, Dinâmica do Mercado, Corretores, Companhias Seguradoras.

Introduction

Pension fund is a constant theme in the most modern economies. In Brazil, there has never been such access to information involving social security, and open and closed pension funds as there is today, a tendency that intensifies as the sector develops.

Social security in Brazil is supported on three pillars: the general system of social security provided by the state, the special pension fund regime exclusively for civil servants, and the complementary pension fund regime (ABRAPP, 2010).

The non-mandatory Complementary Pension Fund Regime, offered to all workers in the public and private sectors, is operated by the most diverse private entities and operates under a capitalization system. (BRASIL, 2014B).

Several authors have cited complementary pension fund as a good option to combat the various problems and uncertainties faced by the general social security regime

The insurance market in Brazil is characterised by the concentration of insurance companies who compete vigorously for volume and participation in a market with high growth potential, and an increase of the penetration of insurance products in the Brazilian economy.

Insurance brokers exercise a fundamental role in the distribution and sale of insurance, constituting the principal distribution channel of products for insurance companies not connected to a bank, known as independent insurers. They are the legal intermediary authorized to sell insurance contracts between the insurance companies and those insured, receiving commissions for this service (LIMA AND ANDREZZO, 2002, p. 70).

In the pension fund segment, they maintain relationships with their clients, providing consultancy on the market, and advising them on new contributions, transferability movements, redemptions, etc.

The complementary pension fund market in Brazil is recent and, because of this, it is in constant evolution and development. The products available today are much better suited to the needs of clients than they were some time ago.

At the present moment, the consumer keeps a strict eye on his pension fund or insurance plan. Whenever there is volatility in interest rates, many people cease paying their contributions, and others redeem their plans, out of concern with the volatility and falling returns.

For this reason it is important to gather information that makes it possible to measure the values of operations of redemption, volume of receipts, results and transferability that occur in the pension plan segment of insurers not connected to banks, for the analysis of the dynamic of this sector, because the data divulged always consider the market as a whole and lack analyses and data information on insurers not connected to banks who are increasingly prominent in 'debanking' and specialized consultancies processes. Together with these measurements, it is necessary to check the perception of the insurance brokers who

operate with pension plans in this market of this dynamic, to check the consistency of the data.

The present study has the objective of replying to the question: what are the main characteristics of the market dynamic of open complementary pension plans in independent insurance companies?

The general objective is to analyse the market dynamic of open complementary pension plans in independent insurance companies using the surveys carried out in the Statistics System of the Superintendency of Private Insurance (SUSEP).

Specific objectives are:

a) To identify the market dynamic of open complementary pension plans of the independent insurance companies, from the point of view of insurance brokers in Belo Horizonte, estate of Minas Gerais in Brazil who operate in the complementary pension plan segment selling the products VGBL and PGDL.

b) To check correspondence between the characteristics of the dynamic identified from the analysis of the consolidated data sent to SUSEP by the independent insurance companies and the perception of the Belo Horizonte brokers in relation to the characteristics of the market dynamic of open complementary pension plans in the independent insurers.

literature review

In this item it is presented the major conceptual aspects that serve as base upon which the methodological choice was made. Particularly, it is analysed the main characteristics of consumer behaviour and the evolution of the pension complementary funds in Brazil.

Consumer behaviour

Blackwell, Minard and Engel (2005) define consumer behaviour as the activities with which people occupy themselves when they obtain, consume and dispose of products and services. For Mowen and Minor (2005, p.3) it is defined as the “study of the purchasing units and of the exchange processes involved in the acquisition of the consumption and in the disposition of merchandise, services, experiences and ideas”.

Samara and Morsh (2007) state that the profile, characteristics, motivations and interests of the consumer suffer all manner of influences. Social, demographic, cultural, psychological and situational aspects, and important marketing stimuli (product, price, location and promotion), affect and impel the attitudes and actions of people in consumer decisions.

The more current explanations of motivation in understanding what drives behaviour are concentrated on cognitive, instead of biological factors. The theory of expectation suggests that consumer behaviour is largely driven by the expectation of obtaining desirable results, instead of having an internal origin. Hence the choice of one product and not of

another occurs because we expect that this choice will bring more positive consequences for us. (SOLOMON, 2011).

According to Mowen and Minor (2005), consumers take decisions to reach objectives, which include making the best choice between two options, reducing the effort expended in the decision-making, minimizing negative emotions and maximising the capacity to justify the decision.

Brief history of pension fund in Brazil

Riter (2007) states that private pension fund in Brazil started in the 16th century, in 1543, when Brás Cubas founded the Santa Casa de Misericórdia TN 1 in Santos, at the same time creating a pension plan for his employees.

In 1793, the Prince Regent D. João VI, approved the plan for naval officers that remained in force for more than a century, and which ensured the dead officer's pay for his widow and daughters. This was a plan that was funded through the discount of one day's pay. (SAVARIS, 2006).

The Superintendency of Private Insurance (Brasil, 2015d) considers that it can be said that private pension fund was inaugurated on 10 January 1835, with the creation of the MONGERAL - Montepio Geral de Economia dos Servidores do Estado TN 2 proposed by the then Minister of Justice, the Baron of Sepetiba, which, for the first time, offered plans with characteristics of options and mutualism. Social security was only to be instituted by Law nº 4.682, the Elói Chaves Law, of 24/01/1923. (BRASIL, 2015D).

The year 1923 is considered a milestone in Brazilian Social security, with the production of Decree nº 4.682, of 24 January 1923, known as the "Eloy Chaves Law", instituting the Caixas de aposentadorias e pensões (CAPs) - pension banks for railway workers. According to Goes (2013, p. 01) "it ensured these workers pension cover for situations of infirmity, normal pensions (equivalent to the current pension funded by contributions), death and medical assistance".

In 1977 Law 6435 instituted Private Complementary Pension Funds and institutionalized open private pension funds. (BRASIL, 2008).

With the promulgation of the 1988 Federal Constitution, the system of social security was instituted, formed by pension fund, health and social assistance, whose general regulations were published on 24 July 1991, with the approval of Law nº. 8.212, which dealt with the organization of social security and instituted its funding plan, and with the promulgation of Law nº 8.213, which covers the Social security benefit plans.

Social security

Social security, as a policy for the protection of the citizen in Brazil, evolved mainly throughout the 20th century, the context that provided its motivation being the great social, political, economic and institutional

upheavals through which the country was passing during this period (BRASIL, 2009).

Law nº 8.213, contains provisions regarding the social security benefit plans:

Art. 1 Social security, by means of contributions, has the purpose of ensuring its beneficiaries indispensable means for maintaining themselves, in the event of incapacity, involuntary unemployment, advanced age, time of service, family expenses and the prison sentence or death of someone on whom they depended economically. (BRASIL, 1991, ART. 1º)

The crisis in the Brazilian Social security system

According to the Ministry of Pension fund (Brasil, 2014b), the social security registered, in 2013, a financing need of R\$ 51.3 billion (in nominal terms, the deficit was R\$ 49.9 billion) in the General Social security Régime – an increase of 14.8% in relation to 2012, considering the revenues and benefit payments in the urban and rural areas. Accumulated revenue in the year was R\$ 313.7 billion – a growth of 4.8% in relation to 2012. Expenses closed off in 2013 at R\$ 365 billion. Among the main factors that contributed to the increase in expenses were the readjustments of the benefits, the natural growth of stock, but mainly the payment of judicial pending and administrative reviews, which, only the latter, accounted for R\$ 2.3 billion.

Santos (2005, p. 109) understands that the crisis in the official pension fund system is connected to its costing. According to this author, the pension fund system merely provides assistance, benefiting all citizens without taking into account the contributions. And this causes financial imbalance for the pension fund system, which accounts for a good slice of the whole system of social security.

El-Moor et. al., (2008) argue that the increase in life expectancy and fall in the birth rate have produced the phenomenon of an ageing population. Projections for 2014 have resulted in a life expectancy of 75.2 years for the whole population, an increase of 3 months and 18 days in relation to the figure that had been estimated for the year 2013, 74.9 years. In 1960, life expectancy at birth was 52.5 years, an increase of 7 years in relation to the figure for 1940. (BRASIL, 2015E).

Although this advance is desirable and very positive from the social point of view, for the Social Security System, with its current model, its effects are very worrying, the reduction of the proportion of young people in relation to the elderly, in the composition of the population, implies a reduction of the relation between active and inactive workers. We are moving towards a relative reduction in the volume of contributions which will become increasingly inadequate for funding the benefits paid to the inactive, and which will also have to be paid for a much longer time. (BRASIL, 2009).

The employed part of the population went from 92.3 million to 92,1 million from the third quarter of 2014 to the third quarter of 2015. In addition to that, a change in the composition of this part of the

population can be detected, in the sense of an increase in the participation of workers occupied in the informal market. The rate of informal activity has grown in this same period, from 44.1% in the third quarter of 2014 to 45.1% in the third quarter of 2015. This upward trend, although less intense, becomes important because it was not registered in recent years, including 2014, when unemployment was already showing the first signs of growth (IPEA, 2015).

Reform of the pension fund system needs to be inserted in the current context and the national political agenda as it is an absolutely essential measure if Brazil is to continue advancing along the road to socio-economic and environmental development. Making it effective depends on the political will of the rulers to define the general principles and strategies to make reform feasible (MATIAS, 2010).

Complementary pension funds

According to Debiassi (2004), private pension funds arose from the need for people to complement the income from social security, which is frequently insufficient to cater for all their requirements after retirement, the benefit being almost always lower than the salary received when they were active.

The organizations providing complementary pension fund are divided into closed (EFPC) and open (EAPC) types. In the latter group are included the insurance companies authorized to offer benefit plans (LIMA ET AL., 2007).

Open complementary pension plan organizations

The EAPCs are defined by the Brazilian Central Bank (BACEN, 2015a) as entities constituted only in the form of corporations, with the object of instituting and operating pension plans of a pension fund nature accessible to any individual persons.

The benefit plans instituted by open organisations may be individual, those accessible to any individual, or collective, when their objective is to guarantee pension fund benefits to several individuals directly or indirectly connected to a corporation (Lima et al., 2007). Debiassi (2004) states that there exists currently in the Brazilian market, a high number of EAPCs, be they banks, insurance companies or other types of institution. When making a survey of the market, it can be seen that there are many types of pension fund pension plan and they all differ from one another in some aspects, such as: benefits, initial period when the insured is not covered, administration charge, extra charges and redemption.

Types of Plan / benefits

Lima and Andrezzo (2007) state that up to the 90s traditional plans prevailed in the market, called plans with guarantee or Benefit Guarantee

Funds (FGB), which were defined benefit plans. From 1997 on, new funds were created in addition to the Individual Programmed Pension Fund (FAPI). The most popular are: free benefit plan (PGBL), created in 1997, and the life generating free benefit (VGBL), created in 2001. In addition to the PGBL and VGBL, other plans were subsequently created, but they are still little known.

Methodology

In this section we describe the methodology used to reach the objectives proposed: the characterization of the study is presented, its classification and the methods for gathering and analysing data,

Characterization of the research and methods for gathering and analysing data.

This work is an empirical piece of research, and has the peculiarity of being a qualitative market study using quantitative instruments.

In relation to its purpose, this study is characterised as being descriptive exploratory research, because the data divulged in relation to complementary open pension plans always consider the market as a whole, and analyses and divulging of data on insurance companies not connected to banks, which are increasingly gaining more prominence in debanking processes and specialized consultancies, are lacking. As regards the means, it is a study with a quantitative and qualitative technical approach, divided into two stages.

In the first, we gathered information that made possible a better understanding of the characteristics of the market dynamic of open complementary pension plans in the independent insurance companies, based on the statistics obtained from the consolidated data sent to SUSEP by the supervised independent insurance companies, using the SUSEP (FIPSUSEP) Periodical Information Forms system. Alternatively, the remittance of files in conformity with Circular no 360/2008, with the data being available for consultation in the SUSEP (SES) Statistics system, was also used.

Data from the supervised insurance companies operating in the open complementary pension plan segment with the products VGBL and PGBL, from 2003 to 2014 were consolidated and analysed, altogether 21 companies. For the analysis of the market dynamic in the segment, these 21 companies were considered, together with insurance companies connected to banks and independent insurers. For the analysis of the market dynamic of the independent insurers and the analysis of the perceptions of the brokers, 11 independent insurance companies were taken.

To allow comparison between homogeneous quantities, the nominal values were transformed into values as at December 2014 utilizing the

Extended Consumer Price Index of the Brazilian Institute of Geography and Statistics – IBGE.

In the second stage insurance brokers from Belo Horizonte, operating in the open complementary pension plan segment with the PGBL and VGBL products with independent insurance companies were presented with a questionnaire, containing questions for qualitative analysis, to extract their perceptions of the open complementary pension plan market dynamic in the independent insurance companies.

This involved the analysis of 36 questionnaires applied and replied to in the presence of the researcher.

For this second stage, the initial sample consisted of 36 brokers operating with pension plans in BH, identified by the production presented at Seguradora S/A. recommended by the commercial managers of the Belo Horizonte regional office of this insurance company. Utilizing this criterion it can be seen that the sample was also one of choice and represents 1.46% of the number of brokers registered in 2008. This procedure was necessary, because it was found that not all the brokers operate in the pension plan segment.

Presentation and analysis of results

The average rates of growth in the period 2003-2014 were obtained by means of regression using a constant growth model applied to monetary values at constant prices.

From the consolidation and analysis of the data, shown in Table 1, it was found that the sum of the contributions of the open complementary pension plan market from 2003 to 2014 linked to the VGBL mode reached R\$391,710,581,042.00 in nominal values, R\$ 479,864,537,328.07 in real values or in constant prices at December 2014. The contributions related to the PGBL mode amounting to R\$ 69,267,330,306.00 in the same period, R\$ 91,432,445,481.99 at constant values as at December 2014, 16% of the total of the contributions of the two modes in the period. The largest volume of contributions in this period was made in the VGBL mode: 84%.

Table 1
Open Complementary Pension fund Contributions (connected to banks and independent)

	VGBL Contributions- nominal values R\$	Base index No Dec. 2003 = 100	IPCA Base index no Dec. 2014= 100	VGBL Contributions -real values or at constant price R\$	PGBL Contributions - nominal values R\$	PGBL Contributions - real values or at constant price R\$
		4059,86				
2003	7,043,070,342.00	2229.49	0.55	12,825,300,655.61	4,238,742,764.00	7,718,672,072.02
2004	10,588,047,167.00	2398.92	0.59	17,918,892,322.97	4,397,818,260.00	7,442,735,247.96
2005	11,733,720,201.00	2535.40	0.62	18,788,854,340.63	4,476,975,224.00	7,168,846,191.10
2006	15,251,247,909.00	2615.05	0.64	23,677,532,489.18	4,431,393,998.00	6,879,730,497.21
2007	20,173,643,631.00	2731.62	0.67	29,983,002,332.59	4,521,653,484.00	6,720,290,565.14
2008	23,526,258,725.00	2892.86	0.71	33,016,916,389.76	5,059,209,779.00	7,100,130,463.75
2009	30,181,423,965.00	3017.59	0.74	40,606,031,932.29	5,201,848,375.00	6,998,557,174.34
2010	36,696,660,338.00	3195.89	0.79	46,617,156,234.99	6,094,741,471.00	7,742,380,716.62
2011	43,422,815,917.00	3403.73	0.84	51,793,342,429.86	7,014,238,245.00	8,366,358,460.09
2012	59,498,715,704.00	3602.46	0.89	67,053,195,854.51	7,533,200,573.00	8,489,681,961.30
2013	62,260,684,906.00	3815.39	0.94	66,250,020,108.68	7,921,284,632.00	8,428,838,631.46
2014	71,334,292,237.00	4059.86	1.00	71,334,292,237.00	8,376,223,501.00	8,376,223,501.00
TOTAL	391,710,581,042.00			479,864,537,328.07	69,267,330,306.00	91,432,445,481.99

* Contributions in insurance companies (linked to banks and independent)

research data – prepared by the author .

* Contributions in insurance companies (linked to banks and independent)

From here on we dealt only with the real values or constant prices based on December 2014. The contributions to VGBL in the market grew from R\$ 12,825,300,655.61 in 2003 to R\$ 71,334,292,237.00 in 2014, average annual percentage variation in relation to the previous year in the period 2003 to 2014 of 17.03%. For PGBL these values are R\$ 7,718,672,072.02 in 2003 and R\$ 8,376,223,501.00 in 2014, a much lower average annual percentage variation in relation to the previous year, average growth of 1.61%.

Contributions to VGBL plus PGBL grew from R\$ 20,543,972,727.63 in 2003 to R\$ 79,710,515,738.00 in 2014, an average growth in the period from 2003 to 2014 of 13.75%. The greatest percentage variation for one year in relation to the previous year occurred in 2012 in relation to 2011, an increase of 25.6% in the contributions. The least variation was the reduction of 1.1% in the contributions of 2013 in relation to the volume of contributions for 2012.

Analyses of the Consolidated Data from the independent insurance companies and analysis of the perception of the brokers: the applied questionnaire

In order to permit a better understanding of the structure beneath the consolidated data, the analysis was split into the contributions in the independent insurers, on the redemptions and on the volume of net funding.

On the contributions in the independent insurers

From the data consolidation and analysis, it was found that the sum of the contributions in the independent insurers, from 2003 to 2014, in the VGBL mode reached R\$ 38,727,165,960.95, 8.07% of the total of market contributions. Contributions in the PGBL mode amounted to R\$ 13,379,075,304.40, 25.7% of the total of contributions of the two modalities in the period. The largest volume of contributions in this period was in the VGBL mode, 74.3%.

The VGBL contributions rose from R\$ 654,571,159.15 in 2003 to R\$ 4,619,953,773.00 in 2014, an average growth of 18.65% in the period. For the PGBL these figures were R\$ 1,200,360,468.37 in 2003 and R\$ 1,273,809,882.00 in 2014, an average growth of 2.81% per year in the period.

Analysing the total value of contributions (VGBL + PGBL) in the period from 2003 to 2014 (Table 5), it was found that this presented sporadic reductions. Negative percentage variations were observed in the volume of contributions from one year in relation to the previous year in the years 2005, 2011, 2012 and 2013. In these years the reductions were of 12, 26.2, 0.6 and 7.3%, respectively.

The greatest positive percentage variation occurred in 2009 in relation to 2008, 83%.

The volume of contributions in the independent insurance companies presented, in the period 2003 to 2014, greater average growth than the average market growth when analysing the modalities individually or the sum of the two, VGBL and PGBL. For the sum of the two modalities, the independent insurance companies grew 12.62% a year, on average, while the market grew 13.4%. In the period, average growth year on year in the VGBL mode in the independent insurance companies was 9.51% greater than the market growth, 18.65% as against 17.03%, respectively. The total volume of contributions in the two modes in the independent insurance companies represented only 9.12% of the total market contributions.

On the redemptions

The greatest volume of redemptions in the period 2003 to 2014 occurred with the VGBL, R\$ 18,805,839,179.36, as against R\$ 8,314,128,301.11 for the PGBL. The total volume of redemptions of both modes VGBL and PGBL was R\$ 27,119,967,480.47.

On the transferability

In generating the databases that gave origin to the spreadsheets with the information relative to

transferability of entry, it was found that from 2003 to 2007 there were no registrations of information sent by the market on these operations. The mandatory remittance of information on the operations on the

part of the supervised institutions occurred from 2008 in compliance with SUSEP circular 360/2008. In consolidating the data relative to transferability of entry in the independent insurance companies, from 2008 to 2014, it was found that the greatest volume of transferability of entry occurred in the VGBL mode, R\$ 5,870,218,933.44 compared to R\$ 4,865,560,985.97 for the PGBL.

A recurring increase in the volume of transferability of entry was found in the PGBL mode and the sum of the PGBL and VGBL modes from 2008 to 2014. For the VGBL individually the same cannot be said, because of the reduction in one individual year, that of 2012 in relation to 2011, of R\$ 963,548,272.75 in 2012 to R\$ 910,394,053.62.

Comparing the volume of transferability of entry and the volume of contributions in the period 2003 to 2014, it was found that the ratio of the volume of transferability of entry to the volume of contributions was less than one. The total volume of transferability of entry calculated in the period, R\$ 10,735,779,919.42, was less than the volume of contributions, R\$ 52,106,241,265.35. Even if one considers the period 2008 to 2014, because of the lack of information relative to transferability operations prior to 2007, the situation remains the same, R\$ 10,735,779,919.42 in volume of transferability of entry as against R\$ 40,217,134,868.47 in volume of contributions.

Comparing the volume of transferability of entry with the volume of transferability of exit, in the period 2003 to 2014, the ratio of the volume of transferability of entry and the volume of transferability of exit was also less than one. The total volume of transferability of exit identified, R\$ 11,229,513,867.60, was greater than the volume of entries, R\$ 10,735,779,919.42, considering the period 2008 to 2014, as there was no data registration of transferability in the SES before this period.

On the net capitulation of private funds

The volume of net funding (transferability of entry + contributions less transferability of exit + redemptions) was positive in all years, that is, in no year was the volume of exits of resources greater than volume of values gained.

Analysis of the perception of the brokers: the applied questionnaire

When asked about their perception of the volume of funds raised relative to the modalities in the period 2003 to 2014, 67% of the brokers replied that in their opinion there was a recurring increase year on year in the contributions. In the data examined, it was found that, in spite of the average growth in the volume of funds raised of 12.62% in the period, the replies indicated there were sporadic reductions year on year. There was no correspondence between the perception of the brokers and the characteristic of the dynamic identified. The data demonstrated reduction in the volume of funds raised from one year in relation to the

previous year of 12, 26.2, 0.6 and 7.3% in the years 2005, 2011, 2012 and 2013. The forecasts for the entry of funds for the coming years is of recurring increases year on year, in the opinion of 66% of the brokers.

The greatest volume of entries in the period, in the opinion of 36% of the brokers, occurred in the PGBL mode, 33%, which was approximately equal to the two modes; and 31%, which was the greatest of the VGBL mode. From the tabling of the data, the greatest volume of entry of funds in the period considered, which occurred in the VGBL, was 38,727,165,960.95. Contributions related to the PGBL mode amounted to R\$ 13,379,075,304.40, being 74.3% of the VGBL contributions. There was no consistency between the values identified from the data examined and the perceptions of the brokers.

When questioned about their perceptions of the forecasts of entry of funds per mode for the coming years 42% replied that they believed that the greater volume of entry for the coming years would occur in the VGBL mode. This opinion differs from the perception in relation to the period 2003 to 2014, where the majority of the brokers believed that the greater volume of entry of funds was in the PGBL.

When questioned about their perceptions in relation to the volume of net funding, 76% of the brokers replied that in no year was the volume of net funding negative, that is, it was positive in all the years. There was consistency in this perception in relation to the data examined, which demonstrated positive values in all the years.

The brokers were requested to list in order of importance from one (the most important) to seven (the least important), without repeating a number, the possible motivations for contributions to the VGBL and PGBL mode pension plans. To analyse the data obtained in the replies to this question, the average of the degree of importance given by all the participants in each question was generated. The average of each question was classified in ascending order of importance to obtain the ordering in degree of importance, shown in Table 2.

Table 2
 Perception of the order of importance of possible motivations
 for the contributions to the VGBL + PGBL plans

Possible motivation for contributions to the VGBL + PGBL plans	Average	Perception of the Order of Importance
Concern with complementing income and maintaining Standard of Living in Retirement.	2.5	1
Worry and uncertainty in relation to the state Social security scheme.	2.6	2
Tax incentive in the PGBL mode.	3.5	3
Increase in preference of high-income investors for pension plans in their succession planning in the VGBL mode.	4.5	4
Economic stability of Brazil, which in the last two decades has been able to proportion greater planning capacity for consumers.	4.7	5
Diversification of investments.	4.8	6
Foregoing of immediate consumption to save and/or consume in the future .	5.4	7

research data – prepared by the author.

In section 2 of the questionnaire, the brokers were requested to reply about the transferability in the period 2003 to 2014 involving the products VGBL and PGBL in the independent insurance companies, basing themselves on their own experiences, intuition and opinions. 47% of the participants replied that the greatest volume of transferability of entry was in the PGBL mode, 31% in the VGBL mode and 22% replied that volumes were equal in the two modes. There was no consistency in relation to the perception of the majority of the brokers and the characteristic of the dynamic found that the largest volume of transferability of entry in the independent insurance companies from 2003 to 2014 occurred in the VGBL mode, R\$ 5,870,218,933.44 as against R\$ 4,865,560,985.97 in the PGBL.

The brokers were questioned about the ratio of the volume of transferability of entry (VGBL + PGBL) and the volume of contributions (VGBL+PGBL) in the period 2003 to 2014. The replies of 58% were that the ratio was greater than one, that is, that the volume of transferability of entry was greater than the volume of contributions. For 36% the ratio was less than one and 6% thought that the ratio was equal to one.

There was no consistency regarding the characteristic of the dynamic found, that the ratio between the volume of transferability of entry and the volume of contributions was less than one. The total volume of transferability of entry calculated in the period, R\$ 10,735,779,919.42, was less than the volume of contributions, R\$ 52,106,241,265.35. Even if one considers the period only from 2008 to 2014, due to the lack of information relative to operations involving transferability up to 2007, the situation is the same, R\$ 10,735,779,919.42 in the volume of transferability of entry as against R\$ 40,217,134,868.47 in the volume of

contributions. The perception of the majority of the brokers (64%) is that this ratio for the coming years will be greater than one.

53% of the brokers replied that the ratio between the volume of transferability of entry and the volume of transferability of exit is greater than one, that is, that the volume of transferability of entry in the period 2003 to 2014 was greater than the volume of transferability of exit. The total volume of transferability of exit identified, R\$ 11,229,513,867.60, was greater than the volume of entry, R\$ 10,735,779,919.42, considering the period 2008 to 2014, as there was no registration of transferability data in the SES before this period; a ratio of less than one. There was, therefore no consistency between this characteristic of the dynamic identified and the perception of the majority of the brokers.

Based on the generation of the average of the importance in the replies of each one of the possible motivations for the transferability in the VGBL and PGBL pension plan modes, we arrived at the perception of an order in importance shown in Table 03.

Table 3
Perception of the order of importance of the possible Motivations for the transferability in the Pension Plans in the PGBL + VGBL modes

Possible motivations for transferability in the PGBL + VGBL pension fund modes	Average	Perception of Order of Importance
Intention to obtain greater gains /better profitability.	2.6	1
Search for pension plans with lower rates.	3.3	2
Insurance broker initiative.	4.0	3
The investor is more aware about comparing products.	4.1	4
Search for products with a profile more suitable for pension.	4.3	5
Comparative evaluation of the conditions between insurance companies.	5.4	6
Change in composition of portfolio	6.1	7
Change in relationship of client with institution.	6.4	8

research data – prepared by the author.

Analysing the replies relative to possible motivations for redemptions in the two modes in the period 2003 to 2014, the order of importance is shown in Table 04.

Table 4
 Perception of the order of importance of possible motivations
 for redemptions in the two modes in the period 2003 to 2014

Possible motivations for redemptions in the modes during the period 2003 to 2014	Average	Perception of Order of Importance
Need for funds.	1.7	1
Decision to apply in other investment options.	3.0	2
Idea that the results are below expectations.	3.0	3
Arrival of the horizon date for investment.	3.4	4
Disbelief in the product.	3.9	5

research data – prepared by the author.

Conclusion

In relation to the market dynamic of open complementary pension funds in the independent insurance companies, it was found that the volume of contributions had, in the period 2003 to 2014, an average growth below that of the average market growth when the sum of the two modes was analysed, VGBL plus PGBL. With the sum of the two modes, the independent insurance companies grew 12.62% per year, on average, while the market grew 13.75%. In this period, the average growth year on year in the VGBL mode of the independent insurance companies was 9.51% greater than the market growth, 18.65% as against 17.03%, respectively. The total volume of contributions in the two modes represented only 9.12% of the total market contributions.

Applying the regression model, a coefficient of determination (R^2) of 0,57 was found = 57%, that is, 57% of the variation in the contributions VGBL+PGBL in the independent insurance companies in the period is explained by the variation of the SELIC rate. For each annual percentage point increase in the SELIC rate one observes an average fall of 4.4x108x1 reais, equal to R\$ 440,294,878.70. The correlation coefficient found was 0.75: strong correlation between the two variables.

Sporadic reductions were found year on year in the PGBL and VGBL contributions in the period 2003 to 2014 in the independent insurance companies. There was no consistency between the characteristic of the dynamic identified and the perception of the majority of the brokers who replied that there was a recurring increase year on year in the contributions and that they believed that in the coming years this would continue.

The greatest volume of entry of funds in the independent insurance companies in the period considered occurred in the VGBL. There was no consistency between the values identified with the data examined and the perception of the majority of the brokers who believed that the greatest volume of entry in the period was in the PGBL mode, but who forecast for the future a greater volume of funds entry in the VGBL.

There was consistency between the characteristic of the dynamic and the perception of the majority of the brokers that the values for net funding in the period were proved to be positive in all the years.

The perception of the brokers in relation to the main motivation of clients contracting and contributing to pension plans is the concern with complementing one's income and of maintaining a standard of living in retirement, followed by worry and uncertainty in relation to the social security system.

There was no consistency in relation to the perception of the majority of the brokers that the greatest volume of transferability of entry in the period in the independent insurance companies was in the PGBL, the characteristic of the dynamic identifying that the greater volume of transferability of entry was in the VGBL mode. There was also no consistency between a perception of the majority of the brokers that the ratio of the volume of transferability of entry and volume of contributions was greater than one, and will remain so for the coming years. In fact, the characteristic of the dynamic identified was less than one, that is, the total volume of transferability of entry was less than the volume of contributions, even only considering the period 2008 to 2014, due to the lack of information in relation to transferability operations prior to 2007.

No consistency was found between the characteristic of the dynamic identified, a ratio of less than one, and the perception of the majority of the brokers that the ratio of the volume of transferability of entry and the volume of transferability of exit was greater than one in the period considered, and their belief that this would remain the case for the coming years.

According to the majority of the brokers, the main motivation of the participants for the transferability is the intention to obtain greater gains/better profitability, followed by the quest for pension plans at lower rates.

The main motivation for the redemptions, according to the majority of brokers, is the need for funds; and the least important was disbelief in the product.

Among the characteristics of the dynamic where it was sought to check the correspondence of the perception of the brokers, there existed in fact correspondence of the brokers' perception only in one, and that was in relation to the volume of net funding in the period, positive in all the years.

As there was no correspondence between the majority of the perceptions and the characteristics of the dynamic, it is important to carry out a check with the brokers to see if they are exploring all the client's needs, and the potentialities of the products. This would cover not only the PGBL's tax incentives, but also aspects related to the diversification of investments, succession planning and retirement planning in the two modes. It is important that the institutions involved evaluate the degree of knowledge of the participants on the question, to be able to define the direction to be taken by pension fund education in Brazil.

As the total volume of contributions in the two modes in the independent insurance companies represented only 9.12% of the total

market contributions, there is a lot of space for the brokers to work with a view to gaining clients at present working with banks, using consultative selling, and a re-evaluation of products and transferability. This is a robust market, but in a certain sense still new in Brazil and one that still needs better publicity of the aspects of financial education in general and pension fund and pension fund education for the population, including in schools.

It is suggested that new studies should be carried out with the representative bodies of insurance brokers, with the idea of researching in greater range and quantity the brokers that operate with pension fund, as well as with a wider territorial coverage, to obtain a greater volume of professionals representing the public. It is also suggested, complementing this work, that a study be carried out with the pension fund and pension fund clients, to identify, in order of importance, the motivations for contributions, transferability and redemptions, examined in this work only from the perspective of the brokers.

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