Spotlight On Retirement

BRAZIL

LATIN AMERICA RETIREMENT SERIES

SOCIETY OF ACTUARIES®

LIMRA Secure Retirement INSTITUTE®

Spotlight on Retirement: Brazil

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Executive Summary

Brazil's population is aging at an unprecedented pace. In 2000, about 14 million individuals were aged 60+. In 2010, the aged 60+ cohort reached 20 million. By 2050, the aged population is expected to total 65 million citizens. If reached, this 2050 milestone would represent a 30-percent share of the total population. Declining fertility and child mortality rates, along with increased longevity, contribute to the speed of Brazil's population aging.

This study focuses on the causes and effects of the aging of the Brazilian population in three specific areas: domestic life, health and healthcare, and economic and financial activities.

The elderly population categorized is a heterogeneous group, which makes population aging diverse and complex. Longevity is everyone's "problem" — for both the young and old alike.

In fact, the study identified high levels of concern at all ages for a number of longevity-related concerns, including finding paying work after formal retirement,[1] maintaining physical health and well-being, and addressing long-term care needs in later life with the potential for total dependency.

The behavior of current consumers can best be understood in the context of current demographic, political, economic, and sociocultural changes, along with the ways in which the population ages. A Brazilian who retired at 60 years of age in the second half of the 1980s would be expected to live another 16.1 years in retirement to reach 76 years of age. By 2015, the expected life expectancy of a sixty-year-old retiree rose to 22.3 years,[2] adding six years to the length of retirement. Longer lives foster longer retirements — and require prudent financial planning.

The total population of the Latin American giant is likely to decrease by 5 percent between 2015 and 2050. However, the population aged 60 or older will grow over the same period to an impressive 114 percent. Projections indicate that the proportion of older people will more than double, from 10.7 million in 2015 to 23 million in 2050. This trend directly affects the potential support ratio (PSR). The PSR indicates the number of people aged 15–64 per one person aged 65+ and demonstrates the burden placed on the working population (the unemployed and children are not considered in this measure) by the non-working elderly population. By 2050, the PSR in Brazil is likely to tighten to 2:1, that is, two potential workers supporting one older person.

Despite recent government reforms, the majority of the population is not yet covered by comprehensive pensions that provide an adequate level of income based on the last salary before retirement.

Like the consumers of all the countries included in this study, Brazilians show a strong preference for products with conservative characteristics, in addition to products that guarantee predictable returns and help preserve capital. Moreover, these consumers demonstrate a desire for guaranteed lifetime income, principal-protected investment, and fixed returns. Banks are the preferred channel for buying retirement income products.

[1]Poblete and Cunha, *Longevity Study*, Bradesco Seguros, IMR Brasil, 2014. The 2019 study data reveal that about 68 percent of respondents rely or expect to rely on full- or part-time work for income in retirement. These data align with Poblete's and Cunha's 2014 study data showing that 70 percent of Brazilian's young and preretired population expected to continue to work after retirement.

[2]*World Population Prospects: The 2017 Revision*," United Nations Statistics Division and Brazilian Institute of Geography and Statistics (IBGE), 2017.

Introduction

Declining fertility and child mortality rates, along with increased longevity, are some of the trends affecting retirement and retirement planning in Brazil. These factors combine with lifestyle behaviors and perceptions to shape what it means to retire in today's world and what it will mean in tomorrow's.

Life expectancy at birth is one of the factors in calculating the sustainability of social security systems. The closer the match between life expectancy at birth and life expectancy at retirement age (60 years), the greater the number of elderly people who will put the Social Security system under pressure.

Life expectancies at birth and at retirement age are converging in several countries. In Brazil, the difference is 6.5 years, that is, 75.8 years old at birth and 82.3 years old at retirement. The UN estimates that by the end of this century the difference will decline to 3.2 years. One important cause is the improvement in health conditions (which decrease child mortality and increase the life expectancy of the elderly). Another is the projected decrease in violent deaths among Brazilians aged 15 to 29, caused by a decrease in this age cohort. If these trends materialize and continue, the pressure on the Brazilian Social Security regime will increase in the coming decades.

In 2000, about 14 million individuals were aged 60+. In 2010, the aged 60+ cohort reached 20 million. By 2050, the aged population is expected to total 65 million citizens. If reached, this 2050 milestone would represent a 30-percent share of the total population.

The increase in the proportion of elderly people and their longevity suggests a radical transformation of Brazil's age map and raises questions about how and to what extent this age group will behave as consumers of insurance products and financial services. The very meaning of being "old" and "retired" may be transformed and give rise to new behaviors and perceptions.

It is important to emphasize the need to closely observe and monitor this transformation. A portion of these increasingly older seniors may be able to lead long, healthy, and productive lives as contributing members of society. Sadly, another portion will likely live out their additional years in poor health and limited security, in need of health and social assistance. So far, there seems to be no consensus in the literature which experience will predominate — even considering the experience of the most advanced countries.[3]

Declining fertility and child mortality rates, along with increased longevity, are some of the trends affecting retirement and retirement planning in Brazil. These factors combine with lifestyle behaviors and perceptions to shape what it means to retire in today's world and what it will mean in tomorrow's.

A wide range of social, cultural, and demographic developments are affecting retirement outcomes in Brazil. The stages of adolescence and youth are longer for generations Y and Z compared to those of previous generations, and their lifestyles during maturity and old age are also different. Fertility patterns and the redefinition of civil/religious unions are reshaping families and households. "Along with the family, individuals' strategies for coping with vulnerability have also changed, and the balance within family, state, and marketplace interaction when it comes to providing care has been modified."[4]

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[3] *World population prospects: the 2015 revision, key findings and advance tables*, Working Paper ESA/P/WP 241.United Nations, Department of Economic and Social Affairs, Population Division, 2015.

[4] Guidotti, Carolina, *Demographic aging and changes in the transition to old age in Brazil: past, present and future*, CEPAL, 2016.

Other social and economic changes may further exacerbate the challenges related to retirement financing.

It is time for Brazil to prepare to face the challenges of population aging translated into an ever-shrinking workforce, greater dependency on the working-age population, and slowing economic growth — factors that will put immense pressure on the pension system.

This study identifies how consumers plan to address their current or future retirement challenges and what their aspirations are. An extension of the original 2015/2016 retirement study by LIMRA in partnership with SOA (Society of Actuaries) in China, this study aims to discover challenges associated with the social security systems and retirement planning in the main markets of Latin America.

About the Survey

The Spotlight on Retirement study in BRAZIL is part of a collaborative research project between the Society of Actuaries (SOA) and LIMRA. With the participation of 1,056 respondents, it reveals consumer perceptions related to retirement in five macro regions of the Brazilian territory: North, Northeast, Central-West, South, and Southeast. The study sample focused on the same demographic segments of the Latin American study that also included Argentina, Chile, Colombia, Mexico, and Peru: young workers (ages 30–45), preretired (ages 46–60) and retired (ages 60+).

Young workers are defined as those at an early stage of their careers and often planning to get married or start a family. Preretirees plan to start or have already started saving for retirement. Retirees are those already in the distribution phase of Social Security benefits or those reaching full retirement age and planning to start receiving their benefits in the short term.

The data were collected through an online survey across all Latin American markets. This paper explores the differences in retirement conduct and planning among different regions, subregions, age groups, and genders to help insurers and other financial services organizations develop effective solutions to meet consumers' retirement planning needs (Tables 1, 2, and 3). The study also highlights consumers' retirement readiness by analyzing current and future sources of income, risk tolerance, and product preferences/ characteristics.

- The online survey's sample was of 1,056 respondents in five subregions to reflect the regional diversity of the Brazilian population (Table 1).
- To gather a representative market sample for insurers and other financial institutions, the survey covered several subregions with different income levels (see Appendix) and also included quotas based on income levels and other parameters to ensure reliable quality of data.

Table 1 — General Sample Division by Region

Region	Sample
North	55
Northeast	231
Central-West	60
South	150
Southeast	560
Total	1,056

Table 2 — General Sample Division by Age Group

Age Range	Sample
30 – 45	374
46 – 60	342
61 – 75	340
Total	1,056

Table 3 — General Sample Division by Gender

Gender	Sample
Male	520
Female	535
Other	1
Total	1,056

Demographic Transition

Demographic transition theory explains a specific change in demographic dynamics, namely the sharp drop in fertility, birth, and death rates. This theory was proposed to account for the relationship between population growth and socioeconomic development.

Fluctuations in population growth occur only once in each country and are aligned with the urban-industrial development process. Therefore, economic development and modernization of societies are the main factors responsible for changes in birth and death rates that in turn affect population growth.

Just as countries develop in different ways and with different rhythms, demographic transition occurs differently across different societies. In addition, it entails major changes in population structures (pyramids).

The theory originated with the work of American demographer Warren Thompson in the late 1920s to challenge the Malthusian demographic theory. According to Thompson's theory, the population does not have accelerated growth, but a growth that has periodic oscillations, alternating demographic growth and deceleration with periods of stability.

Thompson elaborates on the concept in the period of the Industrial Revolution, that is, in the context of the establishment of modern society. Prior to that, mortality and birth rates were constantly high, leading to some demographic stability.

DEMOGRAPHIC TRANSITION PHASES

Due to variations in birth and death rates, a demographic transition is considered to have four societal development phases:

PHASE 1 — also known as "pre-transition," the first phase of a demographic transition is characterized by high birth rates and mortality, which culminates in small population growth. Populations from mostly rural areas also characterize this phase.

The birth rate is high in this phase due to the total lack of access and knowledge about family planning. Moreover, because most societies in the pre-transition period are from rural areas, a large number of children represented a great amount of labor available for jobs and the household economy.

The high mortality rate of this phase is due to a period of a still underdeveloped medical practice, poor sanitary conditions, and constant states of wars and epidemics.

The first phase of the demographic transition took place in Europe from the dawn of the first civilizations until the middle of the eighteenth century. In Brazil, pre-transition lasted until the 1940s. There are no countries in the world currently in this phase.

PHASE 2 — declining child mortality combined with high birth rates generates population growth with a potential virtuous effect — the so-called "demographic bonus" — as the proportion of the working-age population increases.

In European countries this phase is closely related to the industrial revolution, a period in which treatments for diseases emerged, sanitary and medical conditions improved, and food was produced on a large scale. The second phase of the demographic transition also marks the beginning of urbanization and the overcoming of the rural condition.

Haiti and some African countries are examples of nations currently going through this phase.

PHASE 3 — the death rate remains low and birth rate declines for the first time in phase three. The natural increase, or natural population surplus, occurs, but at a slower rate than in the second phase.

The consolidation of urban over rural life is a striking feature of this period. The drop in the birth rate can be explained by two main factors:

- In a rural environment, children were considered human resources for the household economy; whereas in an urban environment, they generally represent expenses.

- Increasing entry and participation of women in the labor market may conflict with responsibilities of child bearing and postpone the decision to have children. Professional and emancipatory goals gain importance for women. In addition, most contraceptive methods emerge in this phase, which makes family planning easier and possible.

Most developing (industrialized) countries such as India and Mexico are at this stage.

PHASE 4 — the fourth phase of the demographic transition is the result of the continuation of previous phase trends: **the birth rate stabilizes at low levels, and the mortality rate (in a downward trend since phase 2) remains low, causing low population growth**.

The aging of the population is a mark of this phase, with a relatively high average age. Population aging is due to longer life expectancy (closely related to low mortality) and associated with a smaller number of children per couple.

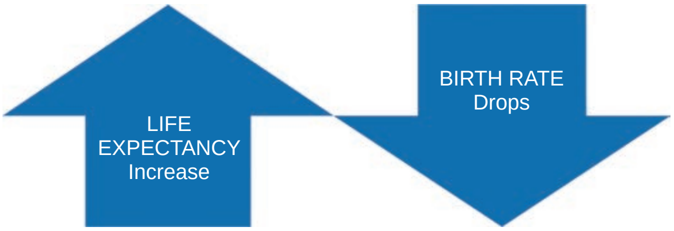
In phase four, a country's demographic transition is deemed to have ended. Japan, Norway, and Sweden are examples of nations in this group.

Although Thompson's demographic transition model describes four phases, demographers are studying the possibility of adding a fifth phase to describe a decline in the absolute population.

"Although the original demographic transition model described by Warren Thompson has only four stages, the passage of time has allowed the addition of a fifth phase in which the birth rate remains low, while mortality increases slightly due to population aging. Under these circumstances, population growth can become negative, as has happened in the countries of central Europe. Thus, in the more developed countries of Western Europe, such as Germany and Italy, positive numbers of the migratory inflow offset the negative natural growth. . . . The term "zero growth" was proposed by the 1970 neo-Malthusian predictions of the Club of Rome."[5]

POPULATION AGING

Population aging can be explained by two key factors:



In recent years, the world has seen a great rise in life expectancy at birth. Brazil has followed this trend with an average life expectancy of 79 years projected for 2030.[6] The aforementioned increase is caused by a combination of two factors: reduced infant mortality and increased life expectancy at older ages. In much of the world's regions undergoing the second and third phases of the demographic transition, the reduction in child mortality had the greatest weight in raising life expectancy. In developed countries, where child mortality is low, increased life expectancy at older ages was the factor with the greatest impact.

Over the last 60 years, the infant mortality rate (IMR) has dropped significantly from 142 deaths per 1,000 births in 1950 to 32 per 1,000 in 2015. In Brazil, the process of convergence with the best IMR international standards has been taking place since the 1980s. In 2015, the IMR was 13.8 and is estimated to decrease to 9 per 1,000 births by 2030. By way of comparison, in the high-income countries of the Organization for Economic Cooperation and Development (OECD), this rate is currently 4.1 per thousand.

Many factors have contributed to the significant decline in the infant mortality rate in Brazil: urbanization, improved social conditions (especially in respect to relative progress in basic sanitation), and a series of public health actions, with emphasis on prenatal care, education, and encouragement of breastfeeding and vaccination, the introduction of community health agents, and the Family Health Strategy (Ervatti, Borges, Jardim, 2015.)[7]

[5]Wikipedia, https://es.wikipedia.org/wiki/Transici%C3%B3n_demogr%C3%A1fica#cite_note-8 (accessed November 2019).

[6]Op. cit., United Nations, 2015.

[7]Ervatti, L. R., G.M. Borgues, and A.P. Jardim, *Demographic change in Brazil in the early 21st century: subsidies for population projections*, Rio de Janeiro: Brazilian Institute of Geography and Statistics (IBGE), 2015.

The birth rate has also declined steadily around the world from the 1950s onwards — which can be attributed to the spread of contraceptive methods, the invention of the birth control pill, and women's entry into the labor market. At that time, the rate was about 6 children per woman in Brazil, 5 children per woman worldwide, and just under 2 children per woman in developed countries. As with the IMR, in the second half of the twentieth century, Brazil's birth rate began to approach that of developed countries. From the 2000 onwards, the rate accelerated and reached that of developed countries: less than 2 children per woman.

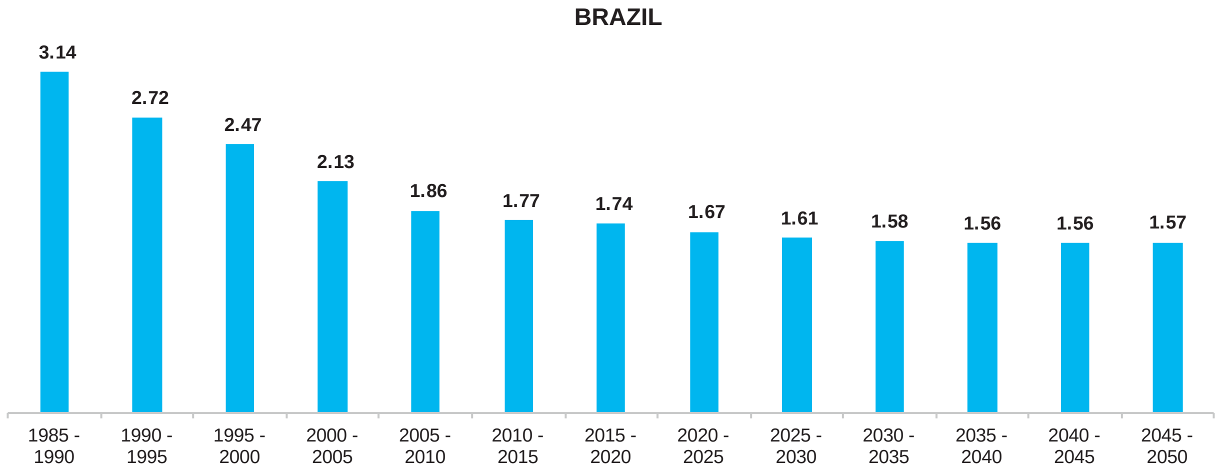
The difference between the observed rate of demographic transition in developed countries and that expected in developing countries is quite striking. For example, it took France about 150 years for the population over 60 years old to go from 10 percent to 20 percent of the total, while Brazil, China, and India are expected to have only twenty years to adapt to the same transition —a very compressed timeframe. The faster transition pace in developing countries could be explained by the fact that these countries were able to take more rapid and consolidated ownership of technological and social advances that ultimately led to the demographic transition itself.

The Brazilian demographic transition reflects the regional inequalities of the country. Although the increase in the percentage of elderly people is seen in all of its five regions, the most developed regions of the South and Southeast exhibit a higher life expectancy they have and a lower IMR. However, it is noteworthy that there was a significant decrease in IMR in the North and Northeast.

The birth rate also differs among regions. The northern region alone maintains a fertility rate equivalent to the level of population replacement (2.1 children per woman). Even in 2030, according to projections, regional differences should remain striking — a point to be taken into account in formulating public policies.[8]

Brazil is going through an important cycle of demographic transition. The birth rate declined from 3.1 children per woman in 1985–1990 to 1.7 in 2015–2020. Although the trend is likely to continue, the projection for 2045–2050 is even lower: 1.57 children per woman. If the replacement rate is not maintained, the population is likely to decline over the long term. Declining birth rates will also contribute significantly to the growth of the elderly population in Brazil.

Figure 1 — Total Fertility (live births per woman)



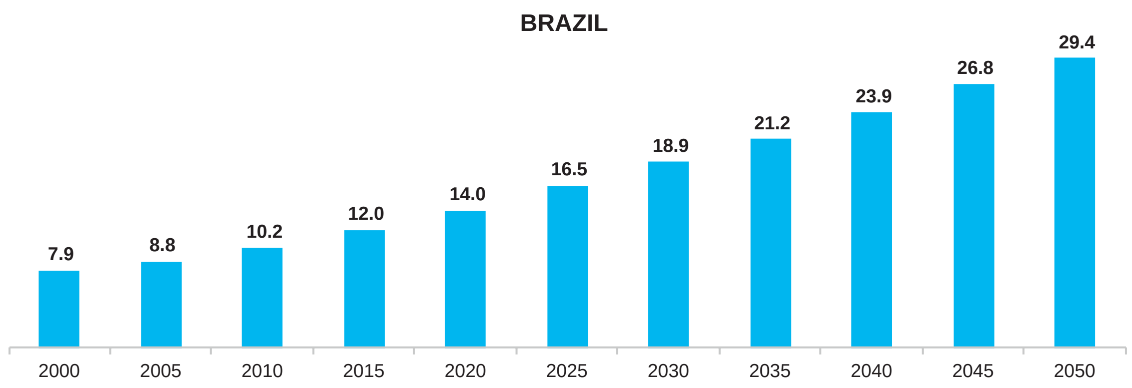
Source. UN Population Division, 2017 data, LIMRA International Research.

[8]Reis, C., L. Barbosa, and V. Pimentel, *The challenge of population aging from a systemic health perspective*, BNDES, 2017.

Massive growth in the number of older people will rapidly change the population structure.

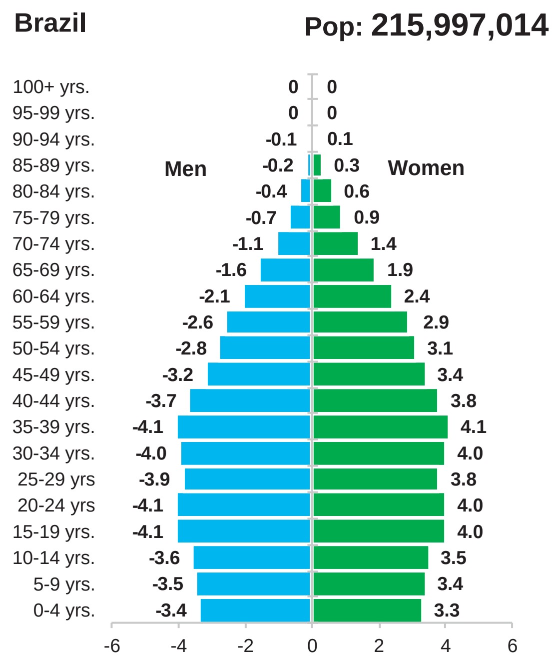
The population pyramids of Brazil (as projected for 2020, 2030, and 2050) clearly illustrate the change in the population structure, with the proportion of the largest age group moving rapidly from younger to older. The trend towards demographic transition is a strong indicator that the country needs to adapt to the changing needs of an aging population.

Figure 2 — Proportion of People Aged 60 and Older in the Total Population



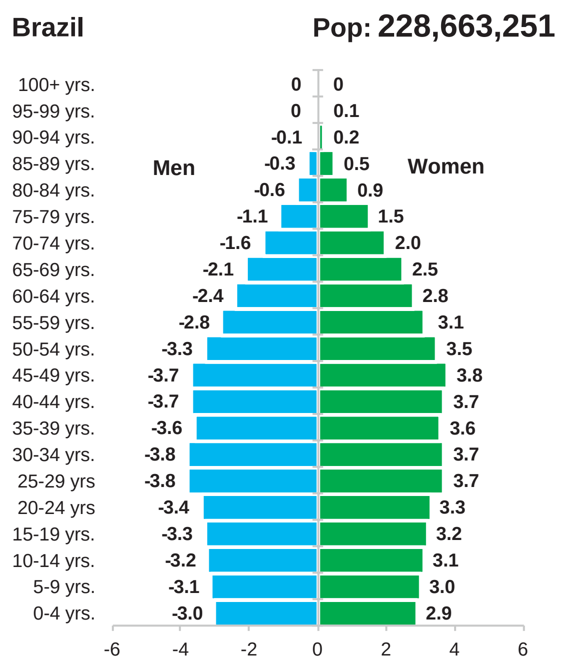
Source: UN Population Division, 2017 data, LIMRA International Research.

Figure 3 — Population Pyramid: 2020



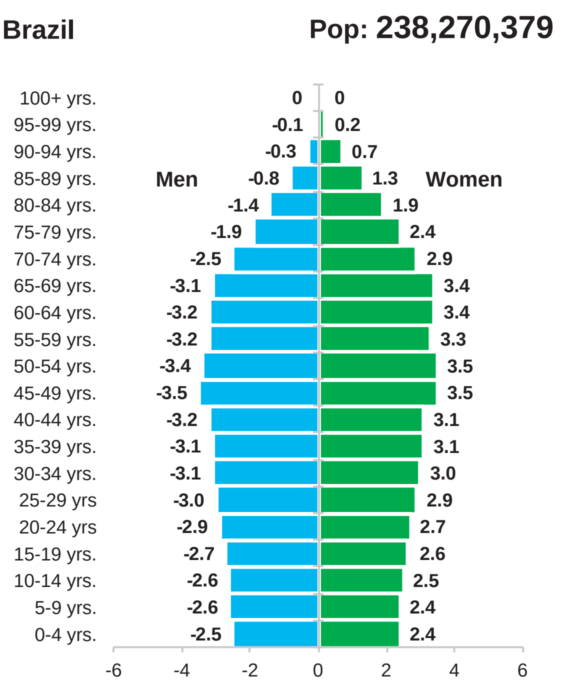
Source: UN Population Division, 2017 data, LIMRA International Research.

Figure 4 — Population Pyramid: 2030



Source: UN Population Division, 2017 data, LIMRA International Research.

Figure 5 — Population Pyramid: 2050



Source: UN Population Division, 2017 data, LIMRA International Research.

It is likely that the elderly segment (population aged 60 and above) will triple from 2000 to 2050.

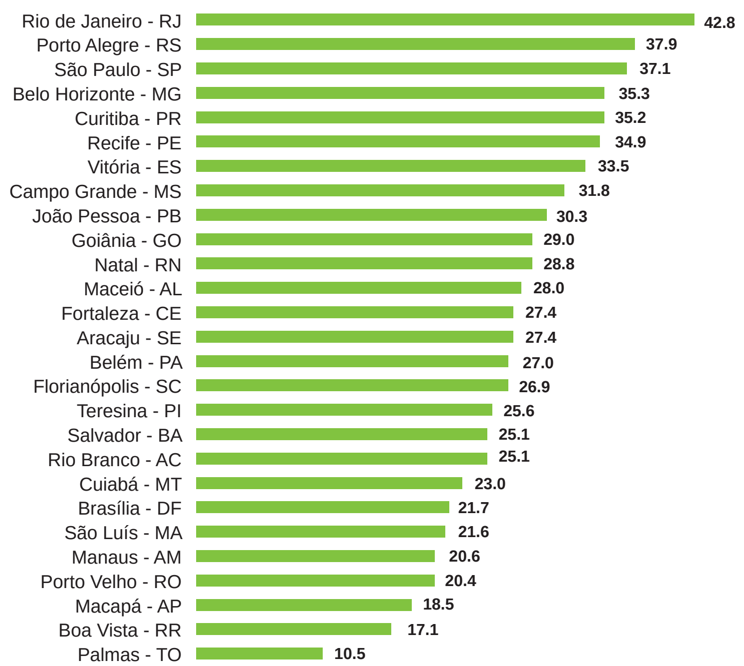
BRAZILIAN HEADS OF HOUSEHOLDS INCREASINGLY OLDER

There is no doubt that the sharp decline in the rate of childbearing is a phenomenon that deserves a separate study in itself — as its effects will also be seen on the consumption of insurance and long-term savings products. However, in the short term, elderly people may be in a precarious economic situation, as they increasingly bear financial responsibility for their households.

The rate of single-person households under the responsibility of the elderly are increasingly high, especially in the more developed states of the southeastern region of Brazil, home to its two main cities, Rio de Janeiro and São Paolo (Figure 6). For example, adults over age 60 are financially responsible for more than 42.8 percent of Rio's households — which means that these homes are mostly supported by Social Security income. Most elderly heads of households are women, especially in urban areas.[9]

Figure 6 — Householders Aged 60 and Above in Brazil

(Proportion of single-person households under the responsibility of people aged 60 and above, by state capital city)



Source: Poblete, Hernán, *Evolution of the Profile of Elders Responsible for Domiciles in Brazil 1991 – 2010*, IMR,with Brazilian Institute of Geography and Statistics (IBGE) data, Brazil, 2013.

[9]Op. cit., Guidotti, p. 11.

In the present stage of the Brazilian demographic transition, the participation of the elderly in economic activity is limited, but not exclusively related to the income level in retirement. The lower the Social Security resources, the higher the participation rates of older people in the workforce — not by choice, but under the obligation to maintain the standard of living of previous years. More than 70 percent of young and preretired Brazilians say they will continue to work after retirement and, of this group, 70 percent say they will do so by necessity.[10]

In less developed countries, older people find themselves in informal jobs that do not eliminate their financial vulnerability. There are no significant differences between the hours worked by the elderly who remain in the job market and preretirees aged 50 to 59 years. However, the salaries paid to the elderly are noticeably lower.[11]

Table 4 — Economic Activity Rates of the Population Aged 60 to 64 and 65 years*

		60-64 years			65 and above		
Country	**Years**	**1990**	**2000**	**% change**	**1990**	**2000**	**% change**
Argentina	1990-2001	33.1	48.5	46.5	9.9	13.0	31.3
Brazil	1990-1999	41.8	47.1	12.7	19.7	25.5	29.4
Chile	1990-2000	36.9	42.6	15.4	14.5	17.5	20.7
Columbia	1992-2000	43.1	40.3	-6.5	21.3	19.2	-9.9
Equador	1994-2001	52.7	67.7	28.5	34.1	44.6	30.8
Honduras	1990-2000	57.2	56.7	-0.9	36.9	41.9	13.6
Mexico	1990-2001	40.5	42.5	4.9	21.7	21.3	-1.8
Panama	1991-2000	33.9	41.2	21.5	21.4	20	-6.5
Paraguay	1990-2001	47.2	60.4	28.0	34.3	39	13.7
Uruguay	1991-2000	38.1	40.3	5.8	10.7	10.1	-5.6
Venezula	1990-2001	41.7	51	22.3	25.2	28.5	13.1

Source: Bertranou, Fabio, “Trends in employment and social protection indicators for the elderly in Latin America”, preliminary version, Santiago de Chile, International Labor Organization (ILO), 2003.

*In selected countries in Latin America, 1990 and 2000.

A significant proportion of elderly Brazilians remain economically active, and the data point to an ever-growing phenomenon. The participation rates of older people in the labor market steadily decreased until the 1990s, when they started to increase (see Table 4 above).[12]

[10]Op. cit., Poblete and Cunha.

[11]Op. cit, Guidotti, p. 11.

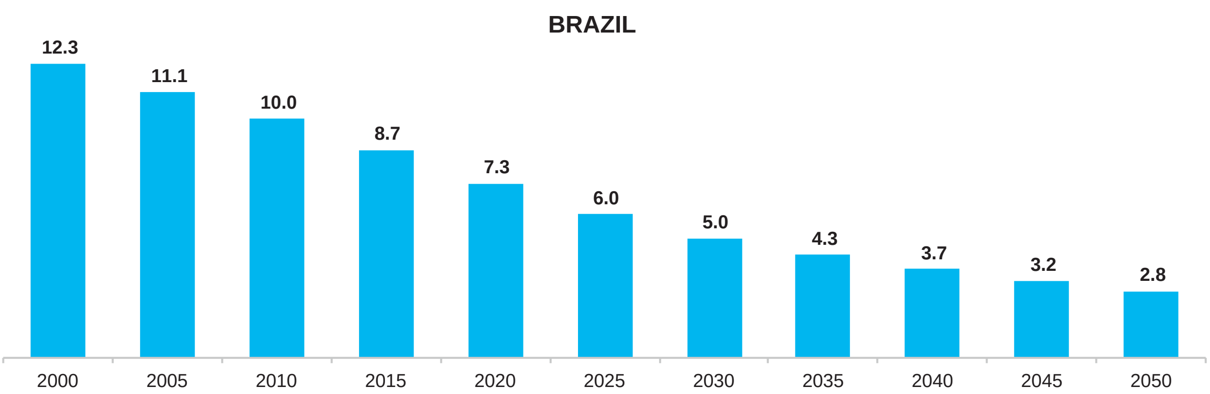
[12]Ibid., p. 15.

As the working-age population declines, pressure increases on social protection systems.

The potential support ratio — which compares the numbers of people of working age with those over aged 65 — is falling worldwide. In Japan, the ratio is 1.8:1 — the lowest in the world. Another 29 countries, mostly in Europe and the Caribbean, already have potential support ratios below 3:1. By 2050, it is estimated that 48 countries — mainly in Europe, North America and East and Southeast Asia — will have potential ratios below 2:1. The potential support ratio in Brazil is expected to fall by more than half in the next 30 years (Figure 7).

These low values signal the potential impact of population aging on labor markets and economic performance, as well as the fiscal tax pressures that many countries will face in the coming decades as they seek to build, finance, and maintain public healthcare, pension, and social protection systems for older people.[13]

Figure 7 — Demographic Dependency Ratio



Source: UN Population Division, 2017 data, LIMRA International Research.
Note: Potential support index = 15–64 population index for age 65+ population.

MAJOR CHALLENGES DUE TO AGING POPULATION

As Brazil's population rapidly ages, the socioeconomic implications of a shrinking workforce and growing number of retirees cannot be ignored.

The challenges will be increasingly difficult. The aging of the population associated with increased longevity, decreased morbidity, and healthcare inflation will pose enormous difficulties. Demand for healthcare, long-term care, and retirement income will definitely increase. There is growing importance in preparing for retirement by providing pensions, personal savings, and medical care.

As a country's population ages, the insurance industry needs to offer personalized products in life, savings, pensions, and health segments to meet the unique needs of its citizens. There is a great opportunity for the industry, as the country needs to start preparing before it is too late. This holds especially true for Brazil (Table 5).

[13]Nações Unidas Brasil (ONS), https://nacoesunidas.org/populacao-mundial-deve-chegar-a-97-bilhoes-de-pessoas-em-2050-diz-relatorio-da-onu/ (accessed November 2019).

The demographic transition that has been taking place over the last 80 years in some Latin American countries is about to start a new phase — one that will increase dependency among the aged.

Table 5 — Thompson's Demographic Transition Stages

	Countries	Birth rate (%)	Mortality rate (%)	Differential (+ –)	Features
Phase 1	None	40–50	40–50	of +10 to –10	High birth and death rates. Mortality rates observed only in the first half of the twentieth century.
Phase 2	Republic of Chad	45.75	14.37	31.38	Birth rate is high, while mortality drops sharply, resulting in population growth.
Phase 3	Peru	20.02	5.62	14.40	Birth rate begins to decline, and while mortality continues to fall, population growth remains positive.
	Mexico	19.1	4.76	14.34	
In transition to Phase 4	Colombia	16.8	5.82	10.98	Birth and mortality begin to show a trend of similar values, so that growth is negligible and immigration plays a key role in population growth.
	Argentina	17.72	7.78	9.94	
	Brazil	14.93	6.07	8.86	
	Chile	13.39	5.11	8.28	
In transition to Phase 5	Japan	8.2	10.1	–1.9	Birth rate continues to fall until it is below the death rate, which in turn increases with the average age of the population. Population growth is therefore negative.

*For every 1,000 people.

Source: With 2013 data — https://es.actualitix.com/pais/wld/tasa-de-natalidad-por-pais.php (consulted on November 2019).

Note: The extreme cases of Chad and Japan are shown on a comparative basis to give a better idea of where the countries selected in the study are standing as of now.

Based on the LIMRA/SOA retirement studies in Latin America and Asia, this report highlights what Brazilian consumers think about the challenges posed by retirement and how they plan to address their various risks. The study also sheds light on how financial institutions and advisors can help their clients solve problems by developing new products and solutions and explores the question whether Brazil's financial services sector is strong enough to support the future challenges of its aging population, given the scale and pace of the country's demographic transition?

Structures of Current Pension Systems and Their Challenges

Three pillars support the Brazilian pension system:

- A public, mandatory, pay-as-you-go (PAYG) system known as the Social Security General Regime (RGPS)
- The pension regimes for government workers (RPPS)
- The Private Pension Regime (RPC)

In recent years, Brazil has undertaken reforms to introduce or adjust pension options available to its citizens. However, much remains to be done for coverage and adequacy levels to reach most Brazilians. The current pension system is configured in a combination of a public distribution scheme (the General Social Security Regime) and a private capitalization scheme (the Private Pension Regime).

The Social Security National Institute (INSS) is a federal independent agency with the jurisdiction to implement governmental actions and policies in the Social Security General System (the state pension system) regime and the duty to grant and maintain those benefits, as well as Social Security and healthcare. This system is considered a citizen's right and a duty of society. It has a universal character in the form of a social protection system that ensures the support of workers and their families in cases of not only death and old age, but also benefits in cases of illness, accident, pregnancy, and imprisonment. In the current government of President Jair Bolsonaro (2018–2022), the State Welfare Secretariat that manages the Social Security system and is subordinate to the Ministry of Finance. Workers contribute directly, voluntarily, or through their employers to the Social Security Fund. Government employees have their own pension systems.

The Private Pension Regime is organized under the auspices of Complementary Law No. 109 of 2001, sanctioned by the government of Fernando Henrique Cardoso (1994–2002). It has two levels: closed entities, specific to employees of a particular company or group of companies; and open entities, accessible to those who subscribe and finance their own benefit plans.[14]

SOCIAL SECURITY GENERAL REGIME[15]

The Social Security General System in Brazil has the mission of "guaranteeing protection to workers and their families through a cooperative, inclusive, and sustainable Social Security policy, with the objective of promoting social welfare." It has undergone several conceptual and structural changes involving the degree of coverage, the range of benefits offered, and financing. It is currently aimed at replacing the insured-taxpayer's income upon loss of ability to work related to one of the so-called social risks: sickness, disability, advanced age, death, involuntary unemployment, maternity, and imprisonment. The current benefits under the Social Security General System are:

- **Age Retirement —** benefit granted to workers who reach the age of social risk. Urban workers aged 65+ for men and 62+ for women are entitled to the benefit. Rural workers can request their benefits five years earlier than urban workers. The 2019 system reform ended the option to retire by time of contribution, but introduced transitional rules for workers who were already part of the system that allowed early retirement. However, these rules gradually reduce the ending benefits.

[14]Portal Abrapp, Dados Instituciones, http://www.abrapp.org.br/SitePages/DadosInstitucionais.aspx (accessed November 2019).

[15]Social Security National Institute (INSS) website, https://www.inss.gov.br/orientacoes/perguntas-frequentes (accessed November 2019).

- **Disability Retirement —** benefit granted to workers who, due to illness or accident, are considered by the INSS medical examiner unable to perform their activities or another type of service that provides an income. Those not entitled to disability retirement have a pre-existing illness or injury that would generate the benefit at the time they enrolled in the system. Those who receive disability retirement must undergo medical expert review every two years, or the benefit is suspended. The retirement disability benefit is no longer paid when the insured person regains the ability to work. To be entitled to the benefit in the event of illness, a minimum of 12 months of contribution to the system is required. The grace period does not apply to accidents, but the claimant must be enrolled in the Social Security system.
- **Special Retirement —** benefit granted to a person who has worked under conditions that are detrimental to health or physical welfare. To be entitled to a special retirement, the worker must prove, in addition to working time, effective exposure to harmful chemical, physical, biological agents or the association of harmful agents for the period required to grant the benefit (15, 20, or 25 years). As with retirement for time of contribution, a grace period applies.
- **Sickness Allowance —** benefit granted to the person who is prevented from working due to illness or accident for more than 15 consecutive days. In the case of workers with a formal contract, the employer pays the first 15 days and the Social Security system pays from the 16th day of absence from work. For all other workers (independent and informal), the system pays the benefit from the beginning of the disability to as long as it lasts. In order to grant sickness allowance, proof of incapacity in an examination carried out by the INSS medical expert is required. To be entitled to the benefit, the employee must have contributed to the system for at least 12 months (grace period).
- **Accident Allowance —** benefit granted to workers who suffer an accident and have aftereffects that reduce their ability to work. It is granted to workers who received sickness allowance. No minimum contribution time is required, but the worker must be enrolled in the system and prove the inability to perform his or her activities through examination by the INSS medical expert. The accident allowance, due to its indemnity nature, can be accumulated with other benefits paid by the Social Security General System, except with retirement benefit. The allowance is no longer paid when the worker retires. The amount corresponds to 50 percent of the benefit paid under the sickness allowance, updated until the month prior to the start of the accident allowance.
- **Reclusion Allowance —** benefit paid to dependents of a prisoner and during the period in which the inmate is imprisoned under closed or semi-open arrangements.
- **Death Pension —** benefit paid to the worker's family when he or she dies. There is no minimum contribution time required, but the deceased worker must be enrolled in the system at the time the death occurs. If death occurs after the worker was no longer in the system, dependents will be entitled to a pension provided that the worker has fulfilled retirement requirements by the day of death. Following the approval of the 2019 pension reform, the benefit will correspond to 50 percent + 10 percent per additional dependent limited to 100 percent of the benefit that the assisted person received or, if he/she was already eligible, the benefit that the deceased would be entitled on the date of death, considering the age and the contribution time to the INSS.

- **Special Pension (Thalidomide Syndrome) —** the specific benefit to Thalidomide Syndrome patients born after March 1, 1958, when the drug called thalidomide was sold in Brazil. It is a special, monthly, lifetime and non-transferable pension. The benefit is granted after examination by the INSS medical expert attests that the physical deformity is due to the use of the drug that was commonly prescribed to pregnant women between 1958 and 1962. The drug was considered to cause severe physical deformities and anomalies in fetuses. In recognition of the government's error in managing public health control, as well as its duty to "compensate" for damages, on December 20, 1982, Law No. 7070/82 was passed, providing special pensions for the disabled. The amount of the pension is calculated based on a point scale related to the nature and degree of dependence due to malformation.

- **Maternity Salary —** benefit paid to the worker who is pregnant, adopting, or who underwent a non-criminal abortion. The benefit is paid during the period of absence from working activities, within 28 days before and 91 days after childbirth. There is no grace period for the insured with formal employment. For independent, informal individual contributors, the grace period is 10-monthly contributions. For the rural workers in a family savings regime, the benefit is due, provided that the worker proves the exercise of rural activity, albeit discontinuously, in the 12 months immediately preceding the beginning of the benefit.

- **Family Salary —** benefit paid to citizens and the self-employed according to the number of children or similar dependents he or she has. Children over 14 years old are not entitled, except for the disabled (for whom there is no age limit). To be eligible, the citizen must meet the maximum income limit set by the federal government. No minimum contribution time is required.

Every worker with a formal contract is automatically enrolled in Social Security General Regime. Self-employed workers need to apply and contribute monthly to gain access to benefits. The Social Security General Regime defines as "insured" those who are employees, domestic workers, self-employed, individual taxpayers and rural workers. Even those with no income of their own, such as homemakers and students, can apply for Social Security. To be enrolled one must be over 16 years old.

ONE HUNDRED+ YEARS OF SOCIAL SECURITY HISTORY IN BRAZIL

The Brazilian Social Security system has a history over a century long, beginning in 1888 with Decree No. 9,912-A of March 26, 1888, which regulated the right of the retirement of Post Office employees and set retirement requirements for 30 years of service and a minimum retirement age of 60 years. Also in 1888, Law No. 3.397 was passed establishing a relief fund in each of the empire's railways.[16]

By 1923 Social Security developed further through the so-called "Law Elói Chaves" (named after the author of the project), which determined the creation of a retirement and pension fund for the employees of each railway company. Throughout the 1920s and 1930s, the Social Security regime under this law was extended to workers from other sectors of the economy, such as maritime port workers and telegraph and radiotelegraph workers. In 1931, the regime was opened to employees of other public services and, in 1932, the workers of the mining sector were included.

The first Brazilian nationwide retirement and pension institution was created in 1933 through the Maritime Retirement and Pensions Institute. As early as 1943, Decree No. 5,452 approved the consolidation of labor laws and drafted the first document for the consolidation of Social Security laws. In 1945, it established that pensions could not be less than 70 percent and 35 percent, respectively, of the minimum wage. Between 1949 and 1953, the so-called ordinary retirement (for the length of service) and the new regulation of the Institute of Retirement and Pension of Commerce — which allowed the affiliation of self-employed professionals as autonomous — were approved.

[16]In 1888 and 1889, Brazil was governed by a representative parliamentary constitutional monarchy under the rule of emperors Dom Pedro I and his son Dom Pedro II. A former colony of the Kingdom of Portugal, Brazil became the seat of the Portuguese colonial Empire in 1808.

In 1960, Social Security began to unify the legislation regarding the Institutes of Retirements and Pensions through the Lei Orgânica de Previdência Social (LOPS) and the General Regulation of Social Security. Law No. 3,841, of December 15, 1960, provided for the reciprocal counting, for retirement purposes, of the length of service provided to the labor union, municipalities, and joint-stock companies. During the 1960s, Social Security was reviewed by an interministerial commission with class representation to propose the reformulation of the general system. Decree-Law No. 72 of 1966 brought together the six Institutes of Retirement and Pensions at the National Institute of Social Welfare — INPS. In 1969, Social Security was extended to rural workers, six years after the creation of the Rural Worker Assistance Fund.

During the military regime, in the early 1970s, the Ministry of Labor and Social Security (1971) was established and domestic workers were included in Social Security (1972). In 1974, the military government created another ministry, distinct from its predecessor — the Ministry of Welfare. Also in 1974, the executive branch established the Social Security data processing company, created the Social Development Support Fund, instituted Social Security assistance for those over age 70 or disabled (also known as monthly lifetime income), and extended special occupational accident coverage to rural workers. In 1975, the retirement age for federal and private sector workers was stipulated. In July 1977, Law No. 6,435 provided for open and closed supplementary Social Security and, six months later, regulated the Supplementary Social Security Secretariat. In the same year, the National System of Social Security and Assistance (SINPAS) was created, coordinated, and controlled by the Ministry of Social Security and Social Welfare, their subordinate bodies and their related entities. Towards the end of the military regime, between 1979 and 1982, the government approved the Social Security benefits regulation, settlement regulation, and the administrative, financial, and inheritance management of Social Security.

The 1980s saw the redemocratization of the country. In January 1984, a new consolidation of the Social Security Laws was approved, and the following year there was a change in the regulation of Social Security settlement. In 1986, unemployment insurance and a working group were set up to "conduct studies and propose measures to restructure the Social Security financing bases and to reformulate Social Security benefit plans."

In the early 1990s, with the government of Fernando Collor de Mello, the first president elected by direct vote since Jânio Quadros in 1961, the Ministry of Social Security and Social Welfare was abolished, and the Ministry of Labor and Social Security returned to management of the public pension system. Decree No. 99,350, of June 27, 1990, created the Social Security National Institute (INSS). In 1991, Supplementary Law No. 70 instituted the contribution to Social Security financing, raising the social contribution tax rate on the profit of financial institutions. Throughout 1992, the year that President Collor was impeached, new wording was introduced on the regulation of Social Security benefits, the organization and the financing of Social Security; and the Ministry of Labor and Social Security ceased to exist to make way for the Ministry of Social Security. In 1993, under the government of Itamar Franco, Collor's vice president, a law is passed that provides for the communication to the Federal Public Prosecutor's Office of tax crimes. In 1994, the so-called Real Plan (referring to the name of Brazil's new currency) was implemented, ending the inflationary climb that had reached 5,000 percent per year. Provisional Law No. 813 of January 1, 1995, transformed the Ministry of Social Security (MPS) into the Ministry of Social Security and Welfare (MPAS). Decree No. 1,744 regulated the granting of continuing benefits to the disabled or elderly and extinguished the birth allowance, the funeral allowance, and the lifetime monthly income.

In 1998, under the government of Fernando Henrique Cardoso, then finance minister of Itamar Franco's government, the first major reform of Social Security since the redemocratization and the formulation of the Federal Constitution of 1988 occurred through Constitutional Amendment No. 20. The most important changes included changes in the age limit in the transition rules for full retirement in the public sector (set at 53 years of age for men and 48 for women), new requirements for special pensions, and changes in the benefit calculation rule with the introduction of the Social Security factor. Also in 1998, Law 9717 was enacted, which provided for general rules for the organization and operation of the Social Security systems of the union, states, Federal District, municipalities, and military.

The turn of the century opened with the election of then-union leader and federal deputy Luiz Inácio Lula da Silva and the promise of an elected government to strengthen the social rights of Brazilian citizens. In 2003, this government approved Social Security reform that aimed essentially at correcting public-sector distortions. These measures were quite unpopular with the president's own party, and he had to face violent protests and union strikes for, among other things, charging 11 percent for inactive union members, setting minimum retirement ages, and establishing benefit ceilings at the federal, state, and municipal levels. In 2005, still under Lula's administration, there was another constitutional amendment that introduced new rules. Noteworthy was the provision of a pension scheme with reduced contributions and shortages to benefit low-income workers and those without personal income who exclusively perform domestic work in their residences, provided that these beneficiaries belong to low-income families, with the benefit of a minimum wage guaranteed.

After two terms, Lula managed to elect his successor, Dilma Rousseff, in 2010. Already in 2012, the Workers Party (PT) government made the last two changes before the reform of the current government of Jair Bolsonaro. Both reforms were directed at government employees. In the first one, the objective was to review disability pensions so that the calculation could be performed based on the average remuneration of the employee and not according to the last-paid salary. In the second, the age for compulsory retirement was moved from 70 to 75 years. The Social Security reform under Dilma's administration also approved the 85/95 formula (the sum of age + contribution time for men and women, respectively).

In August 2016, midway through her second term, Dilma was impeached. Her vice president, Michel Temer, assumed office and tried to approve a new reform, but ran out of support and failed. Temer's reform was the first to suggest a minimum retirement age of 65 for both men and women. However, the required full retirement age would increase as per the population's life expectancy. Experts claimed that by 2060 it would be 67 years old. In addition to age, the worker would also have to contribute to the INSS for at least 25 years to obtain the benefit. For the retiree to receive the full amount of the benefit, he or she would have to contribute for 49 years. For the first time in history, a pension reform made no distinction between urban and rural workers and between men and women.

A REFORMED SOCIAL SECURITY SYSTEM

In January 2019, Temer passed the office to new President-elect Jair Bolsonaro. This election marked a change in socioeconomic and political ideology: after 14 years, Lula's Workers Party (PT) lost the presidency, along with many seats in the Congress and Senate, and a far-right government with a neoliberal agenda took over. The new government submitted a proposal for Social Security pension system reform within its first 100 days of administration and spared no efforts in securing the support of the Congress, Senate, and the people. The urgency, according to the Ministry of Economy, was created by the need for a fiscal adjustment to prevent the collapse of public accounts. Seven governors had already declared a state of financial calamity. The country's domestic public debt had grown in an environment of high-interest rates. The Social Security pension system reform was also required by the financial markets to avoid losses of speculative capital and to offset the growing fiscal deficit that threatened to bankrupt the union, states, and municipalities. Submitted in February 2019 to the Congress, the proposal was approved in November of the same year, after intense debate and modifications to avoid an overemphasis on surplus. Critics argued that the social cost for a country as geographically large as Brazil, with low per capita income and large regional differences, was not given due consideration.

In summary, the main changes defined by the reform were:

- **Minimum retirement age:** 62 for women and 65 for men.
- **Minimum contribution time:** 15 years for women and men (20 years for men entering the labor market after the reform took effect in November 2019).
- **Calculation of full retirement benefit:** women will have to contribute for 35 years to achieve 100 percent; men for 40 years.
- **Calculation of average salaries:** the average will be calculated based on 100 percent of all compensation received throughout the workers' employment. Prior to this change, the calculation was based on 80 percent of the highest salaries since 1994, and the 20 percent lowest salaries were discarded.
- **Government employees:** Women may retire at 62 and men at 65, both with a minimum of 25 years of contribution, 10 years in public service, and five years in the same post.
- **Transition:** Those already in the job market can qualify under one of five transition rules to retire before retirement age.
- **New formula to calculate the benefit of the Death Pension:** 50 percent of the deceased's retirement benefit plus 10 percent per dependent, but not less than one minimum wage.

Most of the debate about the new government's Social Security reform centers on the economic cost versus the social cost, that is, reform based more on the economy (financial strength of the Social Security regime, surplus management) and less on the human dimension involved (social welfare, quality of life, provision for the elderly). For example, the approved change in the calculation of average salaries to determine the retiree's benefit will, in practical terms, diminish future retirement benefits of workers who contributed throughout their lives for benefits higher than one minimum wage. The impact of inflation on reduced pensions, in the not so distant future, paints a worrisome picture.

The current government has proposed what it called a “New Welfare” based on three pillars: 1) the old simple distribution scheme for those unable to participate, given their income level, in a new capitalization scheme; 2) the social pillar, which would benefit the most disadvantaged sectors of the population; and 3) the individual capitalization scheme for those who have income to make regular contributions. In this last and new pillar, the capitalization would be made “in the defined contribution modality, mandatory for those who enroll in the system and structured with an individual account for each worker to build and maintain an individual reserve for the payment of a future benefit.”[17] This specific point of the proposal was not approved by the Brazilian Congress and was left out of the reform. However, the government later issued a statement saying it will evaluate a new proposal to create a capitalization system without changing the Constitution. At the writing of this report, this action had not yet been taken. Government policymakers received a warning from their allied base that the issue could compete with other priority topics such as both the administrative and tax reforms.[18]

The proposal of the Ministry of Economy is to gradually replace — for a portion of the population that earns a certain level of income — a part of the pay-as-you-go system with a system of individual capitalization. The idea is that there are no changes in the system for those who earn up to a certain salary, i.e., they would continue to be 100 percent on the pay-as-you-go pension scheme. However, for the higher earners, or those who earn above the amount to be stipulated, there would be a second contribution to the system based on the portion of the salary that exceeds the reference value. This second contribution would be deposited into an individual account for each worker.

This measure looks at a demographic cut from 2014 onwards, having a direct effect on those entering the labor market (or enrolling in the Social Security system at the age of 16) from 2030 and forward. The argument of the discussion group that elaborated this hybrid design based on recommendations by the World Bank is that it mitigates the transition cost for the government. Otherwise, a full migration would leave the government without an income to pay the benefits of previous generations that contributed to the old system, accentuating the billionaire deficit. The hybrid design would, therefore, decrease the government’s loss of revenue because only a portion of the salary would be invested in the market, while the rest would continue to make cash for the INSS.

According to the proposal, the reference value to define who should also contribute to the capitalization model would be that of R$4,720.00 (approximately US$1,180.00) in 2030, decreasing to R$3,950.00 (approximately US$987.50) in 2040, when the transition would end. After that, according to the model, the cutoff point for joining the capitalization would be equivalent to 70 percent of the INSS ceiling (the highest amount that can be paid as monthly pension benefit by the system).

If the capitalization model were currently in effect, 4 million active INSS taxpayers would be affected — those with income above R$4,720.00 per month, or 7.9 percent of the total population. Taxpayers eligible for capitalized individual accounts would rise to 5.8 million, or 11.4 percent of the total, with the lower reference value of R$3,950.00 per month. If the reference value were to fall even further to R$2,800.00 per month, it would affect 9.3 million taxpayers or 18.2 percent of the total population.[19]

[17]Government of Brazil: *Proposed Amendment to the Constitution 06/2019: Modifies the social security system, establishes transition rules and transitional provisions, and makes other arrangements*, 2019.

[18]*Jornal de Brasilia*, https://jornaldebrasilia.com.br/blogs-e-colunas/proposta-de-capitalizacao-na-previdencia-divide-o-governo/ (accessed in November 2019).

[19]*Exame*, Grupo Abril, https://exame.abril.com.br/economia/equipe-de-bolsonaro-avalia-renda-minima-para-capitalizacao/ (accessed 2019). Exame, Grupo Abril, https://exame.abril.com.br/economia/equipe-de-bolsonaro-avalia-renda-minima-para-capitalizacao/ (accessed 2019).

Thus, the current government proposal would be leaving a good part of the Brazilian middle and lower-middle-class population in a vulnerable retirement situation. As a study shows, "Since mid-2014, 2.6 million individuals have left the upper and new money class, while 3.7 million individuals have left the middle class. The counterpart has been an increase in the working class and working-poor class of 6.5 million individuals."[20] It does not take a crystal ball to predict that a weakened labor market would not be able to meet the savings requirements of individual capitalization and would, therefore, be more vulnerable in the future — especially since the Brazilian labor market is far from reaching full employment.

According to data from Brazilian Institute of Geography and Statistics (IBGE), 4 out of 10 workers in the country are informal workers. The Institute's *2019 Brazilian National Household Sample Survey* (Pnad) shows that of the approximate 91.8 million individuals in the country's workforce in 2018, 41 million are informal, about 44 percent of the total, the same percentage as in 2017. The study points to different causes for the high informality level: workers have no choice but taking a job without a formal contract (15.7 million, including domestic workers), self-employed workers (23.2 million), or those who work within the family without earning salaries (2.1 million). Still, according to the survey, unemployment is the main way out for the subsistence of low-income people when there is no formal job. "The lack of social protection and all the benefits that formality guarantees do not exist in informality, which has grown aggressively."[21] In the United States, for example, both pension systems were maintained: "39.2 percent of older Americans would have income below the official poverty line if they did not have Social Security benefits."[22]

The individual capitalization system needs savings and consumption capacity to function. In a scenario of a low-income per capita country with regional differences in real income and productivity, in addition to a very unstable labor market, the numbers do not add up positively. Even in other countries, at different times and contexts, economy experts agree that higher income groups save a larger proportion of their money and that a more unequal income distribution can reduce the average savings proportion instead of increasing it. This is the case in Chile, with the social crisis that unfolded in October 2019. This means that in order to increase savings and consumption capacity, it is necessary to raise per capita income and productivity beyond welfare, and with concrete entrepreneurship encouragement — homework that fellow South American country Chile has failed to do over the last forty years.

In her pre-financial crisis article of 2003, associate chief-editor for *Le Monde Diplomatique*, Martine Bulard, wrote that individual capitalization "has always been presented as the miraculous solution that should bring security and prosperity to retirees in the face of a terminal Social Security system crushed by demographic shock." She further points out, "in defined contribution plans, workers depend on the company not going bankrupt. In investment funds, they depend on stocks and interest rates at the time of exiting." Therefore, she says, "future pensions will collapse at the same time as the financial markets." This is what happened, for example, to Enron and WorldCom workers in the United States, who "lost more than two billion dollars combined in retirement savings. The vulnerability of a system when it is under the control of the financial market alone is incompatible with the social aspect inherent in a public pension."[23]

[20]Baruf, Ana Maria Bonomi, *Movimento recente de retorno para as Classes D e E parece ser conjuntural* (recent downward movement to working class and working poor class seems to be cyclical), Highlights Depec Bradesco, Year XIII, Number 133, January 13, 2016.

[21]Brazilian Institute of Geography and Statistics (IBGE), https://www.ibge.gov.br/estatisticas/sociais/trabalho/9171-pesquisa-nacional-por-amostra-de-domicilios-continua-mensal.html?=&t=downloads (Consultado em novembro de 2019)

[22]Romig, Kathleen, *Social Security Lifts More Americans Above Poverty Than Any Other Program, Center on Budget and Policy Prioritie*s, November 5, 2018.

[23]Bulard, Martine, *Traídos pelos Fundos de Pensã*o (Betrayed by Pension Funds), Le Monde Diplomatique Brazil, May 1, 2003.

As early as 2004, a report by the National Association of Petros Participants compared theory and practice and stated that, in practice:

> "The balances of most defined contribution plans are actually quite low and offer little hope in financing a decent retirement. Defined contribution plans carry serious risks beyond potential decreases in retirement income. Employers can and do cut their contributions when the economic situation worsens; workers often withdraw money from these accounts and do not use it for retirement; and most distributions of the full amount are not reinvested in retirement accounts, especially by young workers (who would benefit most from long-term investment) and by underpaid and less-well-off workers in general (who most likely may need extra financial support upon retirement).
>
> "Lawsuits are increasingly being filed against companies because of the way they manage their defined contribution plans. By moving from defined benefit to defined contribution plans, employers get rid of costs, but they do so by shifting risk and costs to workers."[24]

A fundamental question remains: would the government's plan of gradually changing the pay-as-you-go regime to that of individual capitalization have the same purpose and potential outcome? As Brazil transitions to increased life expectancies and smaller households, would Social Security fail in its mission of sustaining "a cooperative, inclusive and sustainable social security policy, with the objective of promoting social welfare"?[25]

Brazil has a challenge as big as its territory in terms of its Social Security system and needs to find "the Coca-Cola formula" quickly to cope with its accelerated process of population aging.

PRIVATE PENSION REGIME

Private pensions and retirement plans are mainly regulated by article 202 of the Federal Constitution and by Supplementary Laws No. 108 and No. 109/2001. The legal bases of the private pension regime created a two-level system with closed entities, specific to employees of a particular company or group of companies, and open entities, accessible to anyone who subscribes and funds and individual retirement benefit plan.

The so-called "Supplementary Pension" scheme has the following characteristics:

- Complementary and optional (voluntary); organized autonomously in relation to the Social Security scheme.
- Based on the funding of reserves (savings) that guarantee the benefit contracted.
- Operated by closed- or open-private-pension entities.

Closed-end-private pension entities offer Social Security benefits to organized groups (such as employees of a sponsor employer or member associations representing certain workers' categories or sectors), through an employment bond or association. These entities are non-profit and supported by contributions from sponsors and participants. As such, they may enable lower (even nil) management fees and excellent returns on invested funds due to gains from scale. The entities are managed by deliberative structures that allow the involvement of participants, sponsors, and institutions in decision making.

[24]National Association of Petros Participants, *A Aposentadoria em Risco* (Retirement in Jeopardy), July 2004. The National Association of Petros Participants is the pension fund of Petrobras workers, the Brazilian oil and gas company majority-owned by the state and the largest corporation of Latin America.

[25]Social Security National Institute (INSS) website, https://www.inss.gov.br/orientacoes/perguntas-frequentes (accessed November 2019).

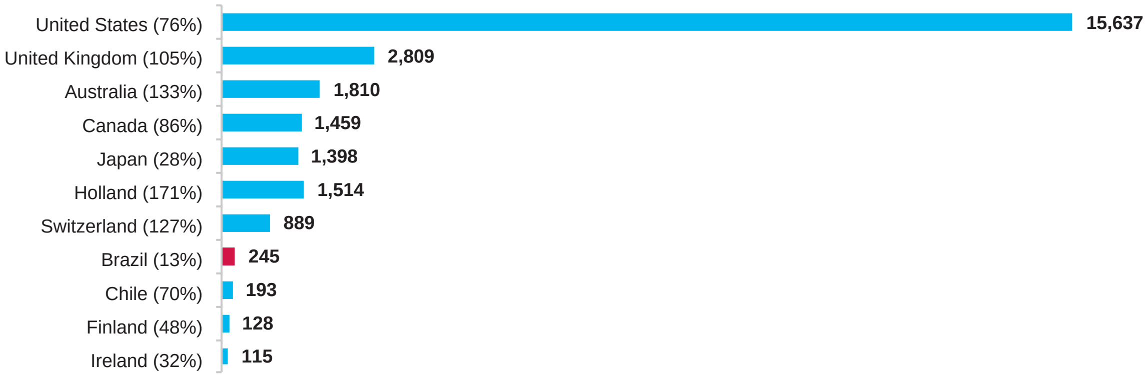
Participants have a tax deduction of up to 12 percent of the taxable gross income and the possibility of choosing the form of taxation (regressive or progressive) for income tax purposes. For the sponsor, the company's contributions to benefit plans may be reduced, as operating expenses, up to a limit of 20 percent of the payroll. These contributions are not binding on the employment contract and do not generate other costs, such as social state charges. In this sense, companies that offer their employees Social Security benefit plans pay better salaries with fewer costs and can use the benefit plan as a differential for attracting the best professionals in the market, a mechanism for retaining talent and increasing productivity and job satisfaction.

The more than 250 pension funds in operation in the country currently manage assets of around R$939 billion (US$234 billion), according to Brazilian National Association of Pension Funds' (Abrapp) consolidated data as of June 2019, representing 13.4 percent of gross domestic product (GDP).[26] The number of Brazilians benefiting from the system is 7.4 million, including active, assisted, and dependent participants (Figure 8).

Pension funds offer three plan options: defined benefit, defined contribution, and variable contribution:

- Defined benefit: the planned benefit value or level is established, and the cost is actuarially determined to guarantee its granting and maintenance
- Defined contribution: the planned benefit value is permanently adjusted to balance the account in favor of the participants, taking the net result of the receipt of benefits and amounts allocated into account
- Variable contribution: the planned benefit combines the features of defined benefit and defined contribution plans

Figure 8 — Pension Fund Assets by Country and Percent of GDP (in US$ Billions)



Source: OCDE, 2018, Brazilian National Association of Pension Funds (ABRAPP), June 2019.

[26]Brazilian National Association of Pension Funds, http://www.abrapp.org.br/Consolidados/Consolidado%20Estat%C3%ADstico_06_2019.pdf (accessed November 2019).

IMPORTANCE OF CLOSED-END SUPPLEMENTARY PENSION

For participants:

- Maintaining at retirement an income standard close to that of the active period
- Building long-term savings
- Safety, even in the event of future adverse events
- Obtaining loans and financing at more attractive rates

For sponsor companies:

- Important human resources tool
- Improved employee/company relationship
- Talent attraction and retention
- Increased employee loyalty
- Additional, complementary retirement income for employees or associates who receive the highest paid amount in benefits by the public pension system. With this additional pension, workers can maintain, on average, about 60 percent of the income level prior to retirement[27]
- Support network for the employee or associate and family members (disability and death events)
- Building a positive and valuable image with society

For society:

- Capitalization of companies through investments in the stock market
- Medium- and long-term project financing
- Job creation
- Direct- and indirect-tax collection
- Maintenance of purchasing power in the consumer market, stimulating the economy
- Improvement of the quality of life of beneficiaries and their dependents

Abrapp further says, “Pension funds, in addition to their core activity, have a relevant economic role as investors. They are now Brazil’s mainstay of the stock and real estate markets and are able to leverage many other economic segments by offering them long-term financing.” However, like the public pension system, they are going through a time of crisis and have billions in deficits.

In 2015, the pension fund deficit reached a record low of R$76.7 billion (US$ 19.1 billion), more than doubling in just a year. By then, the funds had up to 18.5 percent of their investments in equities and lost money since the start of the 2008 financial crisis, facing a period when the stock market underperformed by more than 20 percent. The stock market recovered its 2015 losses in the following year and secured a better result for pension funds and an optimistic recovery projection from 2017 onwards.

By March 2018, the deficit had contracted to R$28.8 billion (US$7.2 billion) — a result attributed to governance improvements,[28] to a stock market recovery, and to the controversial equation programs, in which participants and assisted and dependent beneficiaries relinquished part of their remuneration to help reduce the deficit. This unpopular measure was used since a 1998 constitutional amendment (Constitutional Amendment No. 20 of 12/15/1998) obliges plan participants to share both profit and loss with the fund’s sponsor in the event of three consecutive surplus or deficit results. It is a kind of marriage vow: together in good times and times of crisis. Participants regret not having a say in investment decisions — a fact that they attribute to poor management as a result of a political struggle in Brazil. Critics fear the funds would be managed by politically and non-technically appointed actors to serve the interests of the ruling political party.

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[27] Brazilian National Association of Pension Funds, http://www.abrapp.org.br/Paginas/O-Sistema.aspx (accessed November 2019).

[28] These improvements were implemented following reports that corruption in the government’s Workers Party (PT) was diverting money from the country’s three largest closed-end pension funds with public sponsors in schemes linked to infrastructure projects financing.

Abrapp no longer considers the value that is in the equation arrangement a deficit. The current deficit of R$28.8 billion takes into account only the gap generated after the start of these programs. Established in 2009, the Supplementary Pension National Superintendence (PREVIC) is one of the regulatory authorities of closed-end pension funds. PREVIC considers that the system is solvent today, but that in the long run this solvency will only be confirmed if the equation programs are met. In 2017, the largest funds raised R$36 billion (US$9 billion) with equation programs. There are almost 220,000 employees from the Brazilian Post Office, Petrobras, and Caixa (a state-owned bank) that need to contribute today to balance the deficit in the funds; those from the Post Office get a 20 percent discount on paid pensions. Sponsors are paying the other half of this loss. Fines issued by the courts in cases of corruption-related losses also helped reverse the negative results. One of the agreements resulted in R$4 billion (US$1 billion), divided equally between Funcef (from Caixa) and Petros (from Petrobras).

To avoid further episodes of corruption within pension funds, PREVIC began conducting technical interviews with the investment director candidates of each fund. The professionalization of managers aims to monitor pension governance and deliver better results.

SUPERVISION AND REGULATION

Prior to 2009, the National Secretariat of Pension Funds (SPC), which was subordinated to the Ministry of Social Security, served as the supervisory agency of Brazilian pension funds.

PREVIC, the new agency established in 2009, is semi-autonomous, administered by a board, and has its own budget financed mainly through levies paid by the pension funds based on assets under management. Such levies are calculated on a sliding scale, based on the size of the actuarial reserves of each plan. PREVIC's organizational structure also comprises an ombudsman and internal affairs, a department in charge of policy compliance with internal processes, as well as the Complementary Pensions Chamber of Appeals (CRPC). Such bodies are composed of representatives from pension fund entities, plan sponsors, plan participants and the government.

The board of directors comprises the superintendent and four other directors, all of whom are chosen amongst professionals of good reputation and recognized competencies, identified by the finance minister and approved by the president of the Republic. Directors are forbidden from participating in any professional or political activity that would be in conflict with their responsibilities.

The "formulation of policies" is an attribution of the SPPC (Secretariat of Complementary Pensions Policies) a body subordinated to the finance minister.

The regulation of the pension system is an attribution of the National Regulatory Board for Complementary Pensions (CNPC). It is chaired by the finance minister and composed by representatives from Previc, SPPC, the Office of the Presidency of the Republic, the planning, finance and budget ministries, pension funds, sponsors, participants, and beneficiaries.

Tax Treatment[29]

The retirement pension paid by the Social Security General System is subject to income tax according to progressive rates. The progressive rates of the annual income tax for payments have not changed since 2016 and are the following:

0 for up to R$22,847

7.5 percent for R$22,847 to R$33,919

15 percent for R$33,919 to R$45,012

22.5 percent for R$45,012 to R$55,976

27.5 percent for R$55,976,16

[29]Gago, Casseb, and Oliveira, Brazil, *Pension and Retirement Plans*, May 2019.

Contributions made by a company to pension plans are not considered employee compensation and, therefore, no withholding income tax or Social Security contributions are levied on them. Also, a company's contributions to pension plans can be deducted from the calculation base of its income tax, up to a limit of 20 percent of the total compensation paid to employees.

Private pension benefits are also subject to withholding income tax according to progressive rates. Alternatively, pensioners can opt to be taxed by the regressive taxation system. Under the regressive system, the income tax rate starts at 35 percent and is reduced according to the length of the investment, reaching 10 percent for investments longer than 10 years. The income tax payment is paid when the benefit is paid. This system is recommended for long-term investments, since the longer the contributions are invested, the lower the income tax rate will be. The rates are as follows for investments lasting:

Up to two years: 35 percent

Two to four years: 30 percent

Four to six years: 25 percent

Six to eight years: 20 percent

Eight to 10 years: 15 percent

More than 10 years: 10 percent

Individuals who contribute to private pension plans can deduct the amount of their contributions from the calculation base of their income tax, up to a limit of 12 percent of their total annual earnings.

Investment Regulatory Framework

Given the country's more stable economic environment and declining interest rates, where exposure to higher risks is increasingly crucial for pension funds to meet their profitability targets and achieve higher returns, a distinct — and more dynamic — investment approach is essential for private-pension entities.

In this current scenario, the National Monetary Council (CMN) enacted Resolution No. 4.661/2018, which establishes a new regulatory framework to govern the investments made by entities, allowing them to invest more aggressively in various asset classes while maintaining the criteria of transparency, control, and supervision. The main asset classes and their quantitative limits are as follows:

Government bonds — 100 percent

Debentures and states and municipalities bonds — 80 percent

Variable Income — 70 percent

Alternative investments — 20 percent

Foreign investments — 10 percent

Real estate — 8 percent

Hedge Funds -— 10 percent

Infrastructure — 20 percent

Loans to participants — 15 percent

Multi-asset funds — 10 percent

Retirement — Consumer Perspective

LIMRA and SOA's retirement research series examines selected local markets in detail. The research identifies the ways in which decision-makers and/or those contributing to household financial decision-making plan to address retirement challenges.

Brazil's geographic breadth encompasses great cultural and sub-cultural diversity. The people of its regions differ in both perception and behavior on many of the topics analyzed in the study, hence the study provides data by subregions.

Regional Accounts: five states account for nearly two thirds of Brazil's GDP.

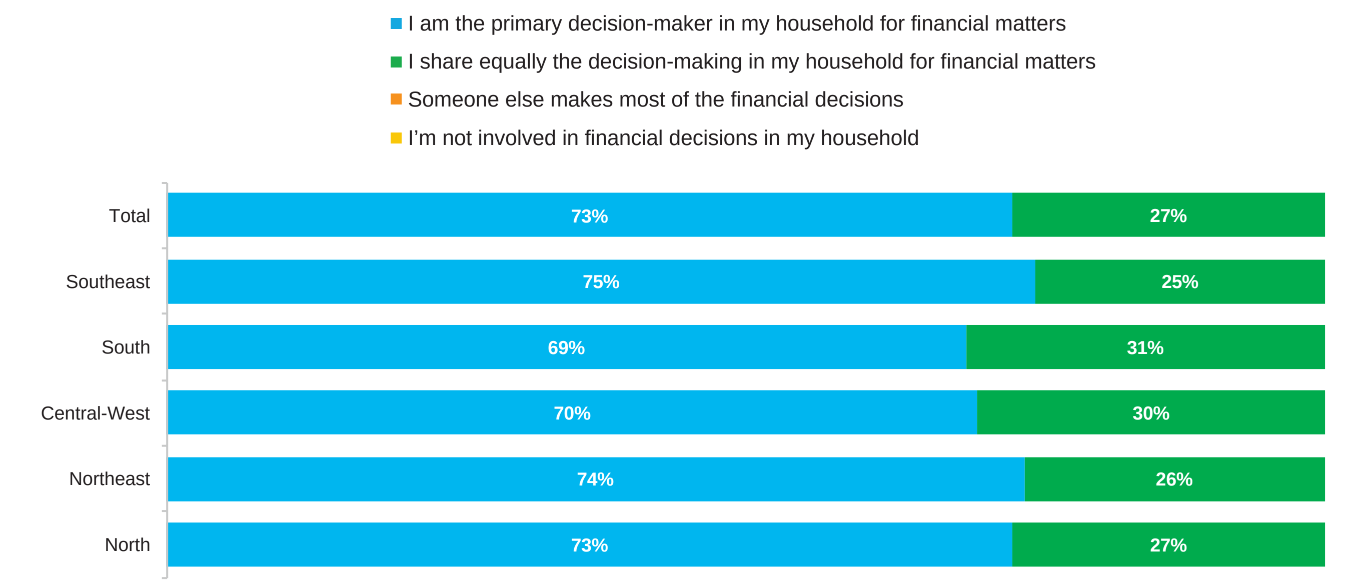
According to IBGE 2014 data, five states accounted for 64.9 percent of Brazil's GDP. The top three producers are in the Southeast region: São Paulo (32.2 percent), Rio de Janeiro (11.6 percent), and Minas Gerais (8.9 percent); the fourth, Rio Grande do Sul (6.2 percent), and fifth, Paraná (6.0 percent), are in the South. From 2002 to 2014, two states from the Central-West region and three from the North registered the highest GDP growth rates. The highest per capita GDP was recorded in the Federal District (R$69,216 — US$17,300), which is located in the Central-West region.[30]

Brazil's GDP was equivalent to US$1.44 trillion in 2014. São Paulo (US$465 billion) had the highest GDP among the Federation Units, and it was followed by two other states of the Southeast — Rio de Janeiro and Minas Gerais with a GDP equivalent of US$167 billion and US$129 billion, respectively. Rio Grande do Sul, the largest state of the South was forth in the ranking with a GDP equivalent of US$89.4 billion. Three states of the North Region ranked near the bottom with a GDP between US$3.3 billion and US$2.4 billion.

Financial decision-making in Brazilian households is mainly (73 percent) in the hands of a single family member (Figure 9). Sharing this task with another family member is a growing trend, including almost a third of households — mainly in the South and Central-West regions.

Figure 9 — Household's Financial Decision-Maker

Question: How would you describe your role in making financial decisions for your household?



[30]Selected information from the Regional Accounts 2014, produced in partnership with state statistical agencies. The detailed results can be found at: https://agenciadenoticias.ibge.gov.br/en/agencia-press-room/2185-news-agency/releases-en/10156-regional-accounts-2014-five-states-account-for-nearly-two-thirds-of-brazilian-gdp.

Table 6 — Financial Dependency

Question: Which of the following individuals are financially dependent on you?

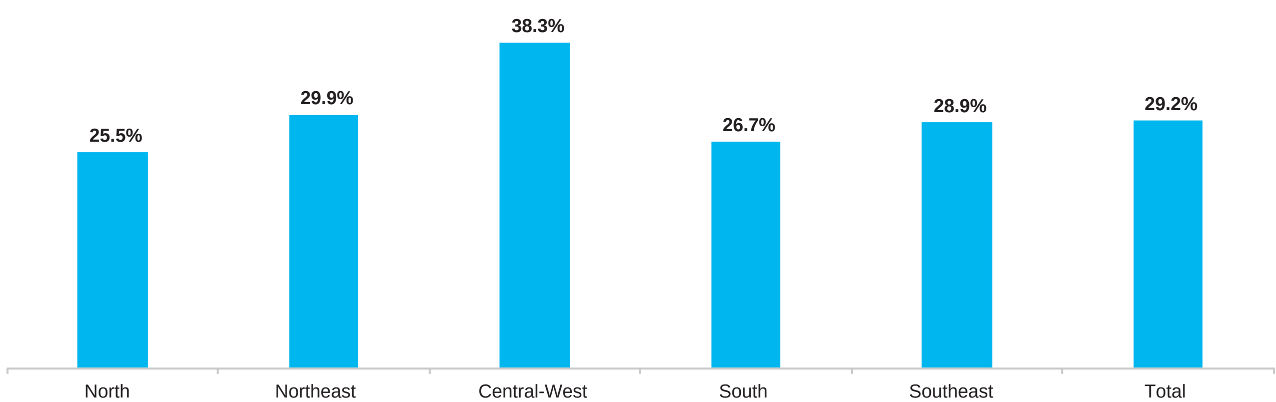
	North	Northeast	Central-West	South	Southeast
Spouse	43.8%	42.6%	46.7%	37.4%	45.5%
Mother	7.3%	6.5%	15.0%	3.3%	7.9%
Father	3.6%	3.5%	5.0%	2.7%	2.5%
Child/Children	54.5%	53.2%	56.7%	50.7%	51.8%
Spouse's mother	2.1%	2.0%	0	2.3%	1.0%
Spouse's father	0	0	0	0	0.8%
Siblings (brother/sister)	7.3%	4.3%	3.3%	4.0%	2.9%
Other	0	1.7%	1.7%	1.3%	1.8%
None	21.8%	27.7%	20.0%	28.0%	26.8%

The base of the demographic pyramid (child/children) is still the main financial dependent of half of Brazilian families in each of the five regions surveyed. Spouses follow closely, at over 40 percent, except in the South region. These similar dependency rates of children and spouses may indicate that most families in Brazil with children are choosing to leave minors under the care of one of the spouses rather than delegating this role so that both can be active in the labor market. The contingent of dependent fathers and mothers is still relatively low, but the tendency is to increase as population aging progresses. Approximately one quarter of those interviewed said they had no dependents, from which it can be inferred that these are childless families with parents and possible spouses still financially independent. In short, they are families of a new demographic era (Table 6).

The likelihood to live longer and outside of a family environment increases the need to build income to finance specific care in the later stages of life. Hence, the importance of long-term financial planning increases. About one third of respondents do not hire a financial professional to plan and make economic decisions. In the Central-West region, this trend is even stronger, where 38 percent of respondents typically do not consult a financial professional (Figure 10).

Figure 10 — Financial Professionals Are Not Hired to Help With Household Financial Decisions

Question: Does your household typically work with any financial experts to help with your household financial decisions?



Results represent respondents who answered "no."

As seen in Figure 10, about one third of Brazilians do not look for financial experts to guide them through financial decisions. However, those who do (70 percent) prefer the professional help of a financial advisor at a bank (9.8 percent), followed by accountants (8.6 percent), and lawyers (7.6 percent). Bank specialists are the most sought after in the North. Insurance agents/brokers are among the least sought after nationwide, with the exception of the Central-West, where they are the consumers' first choice, and financial advisors at a bank are the second choice. In the South, Brazilian consumers look mainly for lawyers as professionals to advise on financial matters (Figure 12).

About 14 percent of total respondents in Brazil have not taken any action related to retirement planning. This inaction may be due to preoccupation with other responsibilities or lack of awareness of the importance of retirement planning and appropriate steps. The region with the highest level of lack of planning is the North, the region with the lowest contribution to the country's GDP and the highest birth rate. In the Central-West and Southeast, most respondents said they determined how much their income would be in retirement. One of the often-overlooked planning activities is to think about where one will live after retirement, as the cost of living has an important weight in calculations. The Central-West region had the best results for this specific planning activity, with 38 percent, almost 10 percentage points above the national average. The same occurred with the activity of determining Social Security benefits at different retirement ages (Figure 11).

Figure 11 — Retirement Planning Activities

Question: Which of the following retirement planning activities have you done?

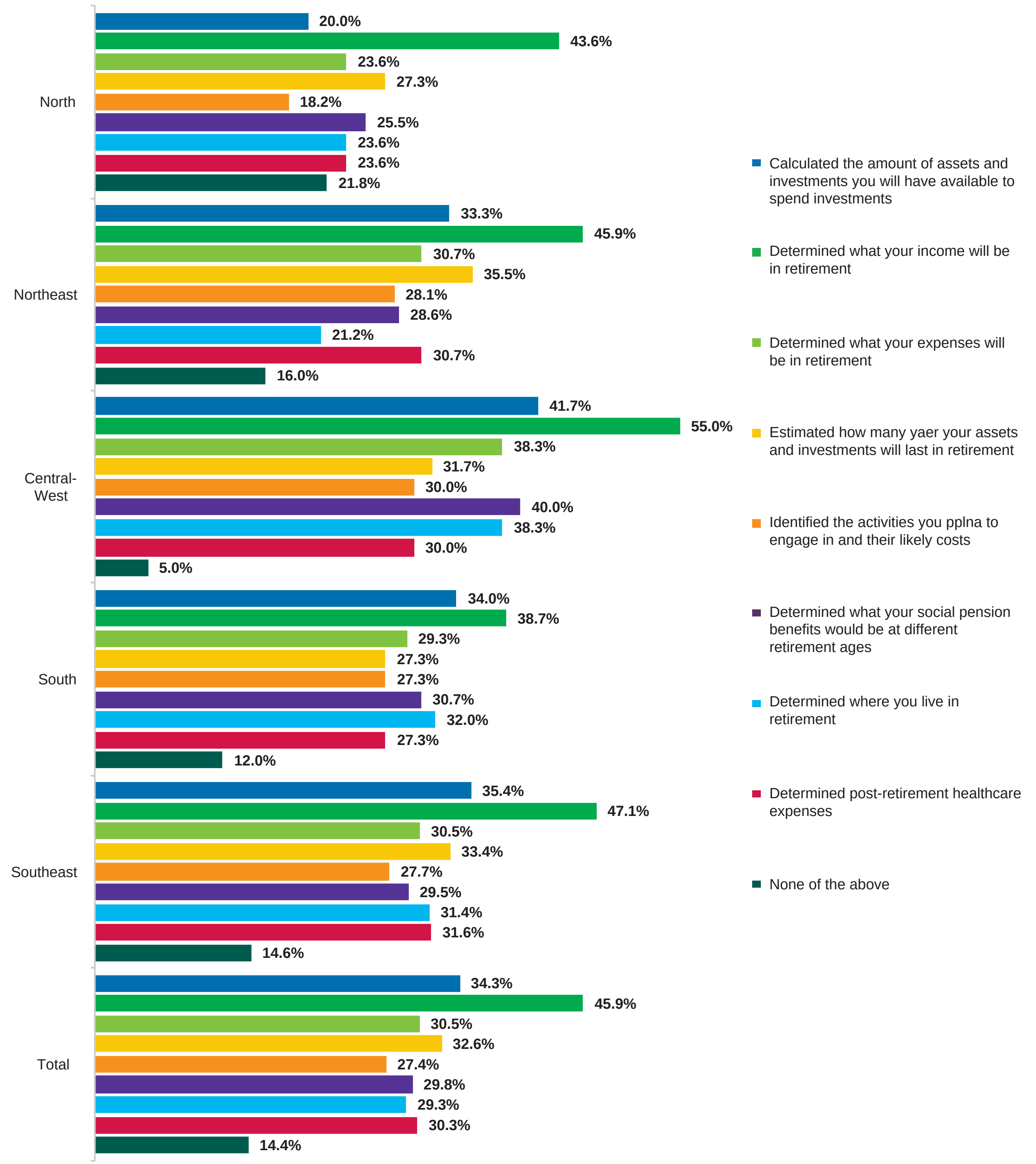
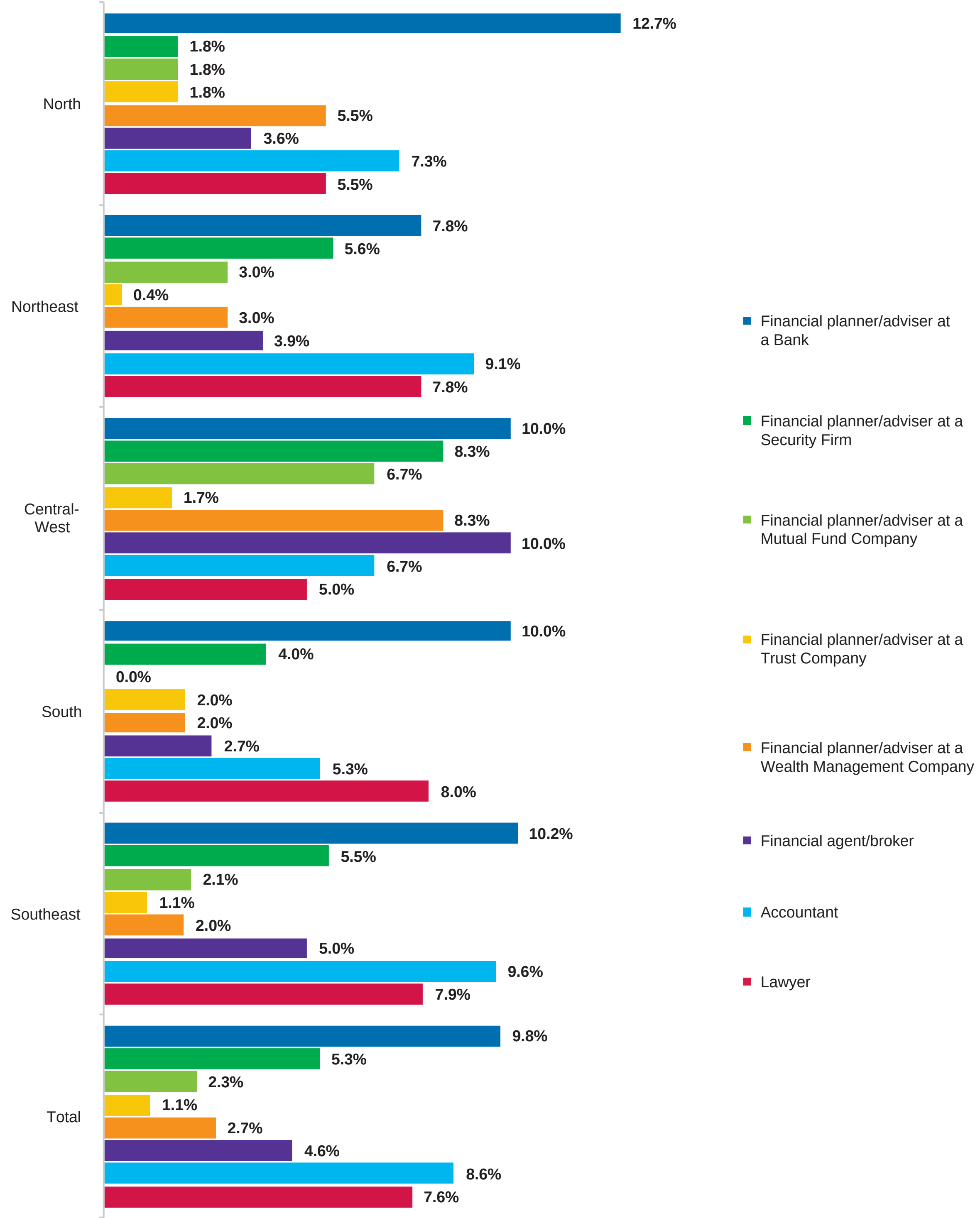


Figure 12 — Those Looking for Help With Household Financial Decisions, Go to a...

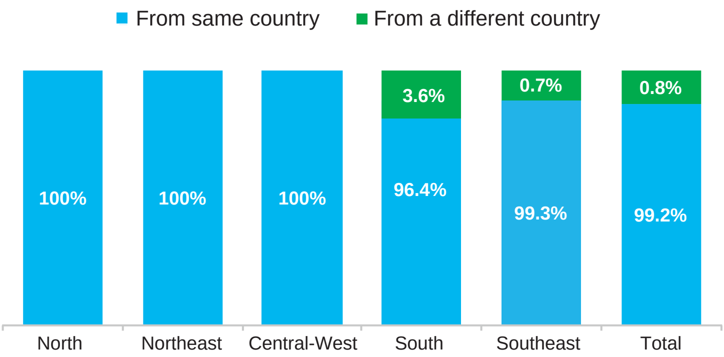
Question: Does your household typically work with any financial experts to help with your household financial decisions? If yes, please select all that apply.



Only South and, to a lesser extent, the Southeast, regions of Brazil show some (statistically irrelevant) use of financial advisory services from outside the country (Figure 13).

Figure 13 — Domestic or Offshore Financial Advisory

Question: Is your financial advisor from your country or out of the country?

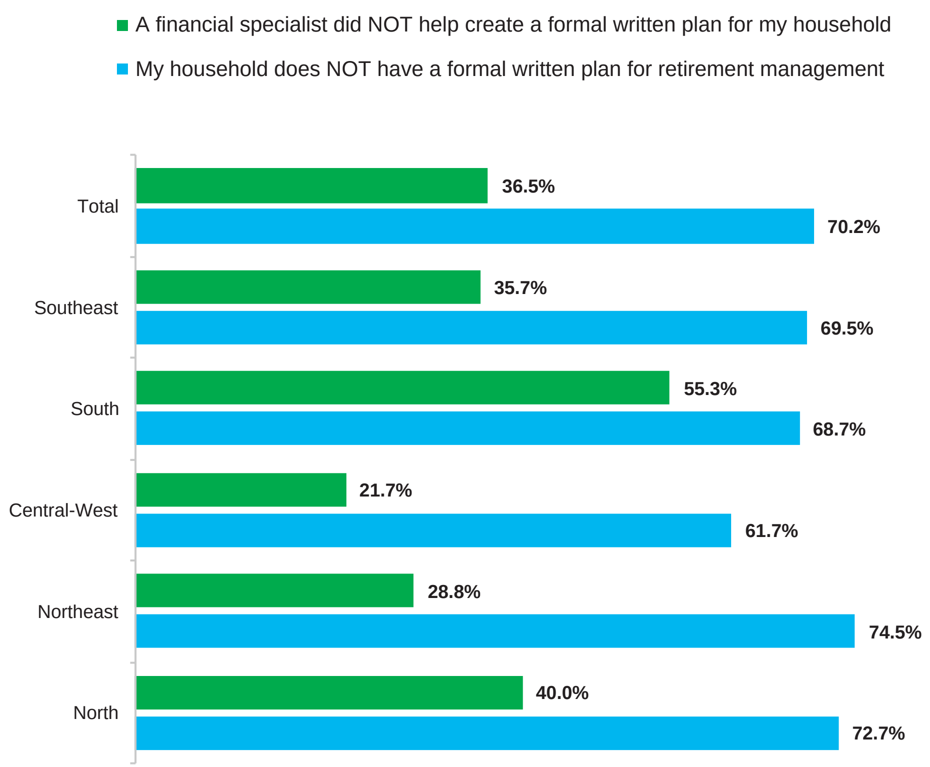


Thirty-six percent of Brazilians households with a formal written plan for retirement do not seek the help of financial experts.

Although Brazilian consumers do seek professional help with regular financial decisions, they do not do so with the objective of establishing a formal written plan for retirement management. In fact, 70 percent of households do not have a formal written plan to manage income, assets, and expenses during retirement. The Central-West is the only region that deviates slightly from this pattern. Among those who do have a plan, around 36 percent create it without professional help (Figure 14).

Figure 14 — Retirement Planning

Question: Does your household have a formal written plan for managing your income, assets, and expenses during retirement? If so, did a financial professional help your household create your plan?



Consumers are willing to trust financial institutions.

Most Brazilians consumers are willing to trust financial institutions and the confidence level is particularly high among young workers. Respondents express certainty about future retirement. The optimism is broad: almost three quarters of the participants believe they are able to maintain their desired living standards and lifestyle during retirement. This perception is higher in the South, Southeast, and Central-West.

If there is optimism and confidence on one hand, there is a gap to fill on the other: help with savings and retirement planning. Nearly 70 percent of consumers with sponsored private pension plans need more information and advice from employers. This finding is ten percentage points higher in the Central-West. Just over half of respondents are willing to purchase or plan to purchase a guaranteed lifetime income product and claim to be very involved in monitoring and managing their retirement savings (Table 7).

Table 7 — Retirement Readiness and Managing Risks

Question: For each of the following statements pertaining to your retirement concerns and actions, please indicate if you strongly agree, somewhat agree, neither agree nor disagree, somewhat disagree, or strongly disagree.

	North	Northeast	Central-West	South	Southeast	Total
Trust						
I am confident that I will be able to live the retirement lifestyle I want	50.9%	54.1%	63.3%	65.3%	61.1%	59.8%
I have enough savings to last until the end of my retirement	40%	45.9%	45.0%	45.3%	45.7%	45.4%
Assistance						
I would like my employer to make available more comprehensive information and advice on retirement savings and planning	63.9%	73.0%	80%	58.0%	70.9%	69.6%
Action						
I would be willing to purchase or plan to purchase a financial product that will provide guaranteed lifetime income	58.2%	62.8%	73.3%	50.7%	59.1%	59.5%
I am currently very involved in monitoring and managing my retirement savings	49.1%	54.5%	61.7%	48.7%	55.9%	54.5%
Challenges						
I do not trust financial institutions with my money	32.7%	34.6%	33.3%	32.7%	33.0%	33.3%
It is rare to hear people talk about retirement planning in the workplace	58.3%	62.4%	50%	50%	64.3%	60.9%
I have/will inherit property from parents/relatives	27.3%	33.8%	38.3%	29.3%	39.5%	36.1%

Note: Table 7 shows aggregate results of "strongly agree" and "somewhat agree."

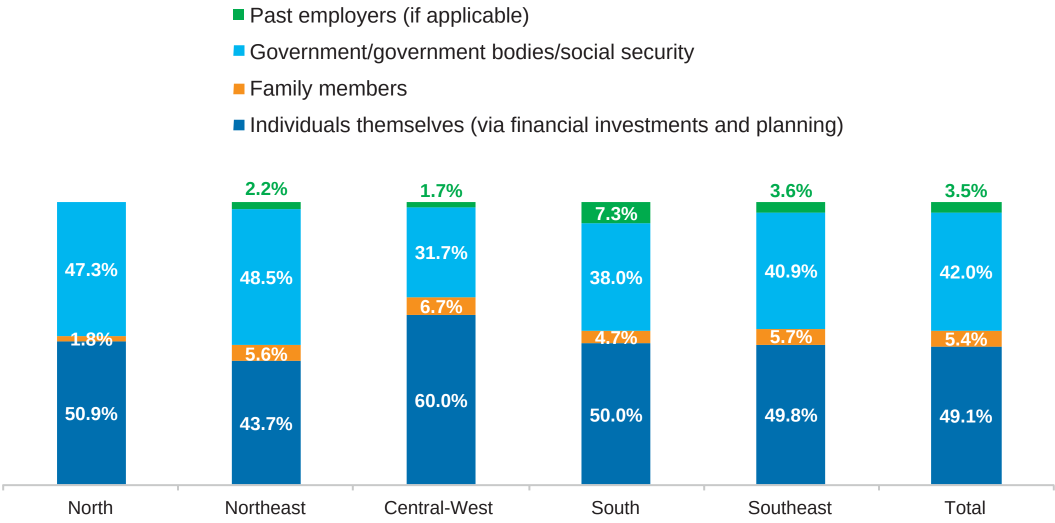
Half of Brazilians households believe that individuals are responsible for generating their retirement savings.

In answer to the question of responsibility for retirement financing, the wealthier regions[31] of Brazil (South, Southeast, and Central-West) showed a willingness to accept personal responsibility. Notably, 6 out of 10 respondents in the Central-West region, an agribusiness powerhouse and the least populated of the country's five regions, accepted personal responsibility. Even in the poorer region of the North, more than half of respondents accepted personal responsibility. The Northeast, also a poorer region, showed a preference for government assistance (Figure 15).

[31]Wealth measured by GDP and per capita income.

Figure 15 — Retirement Financing Responsibility

Question: Who should primarily be responsible for providing retirement funds?



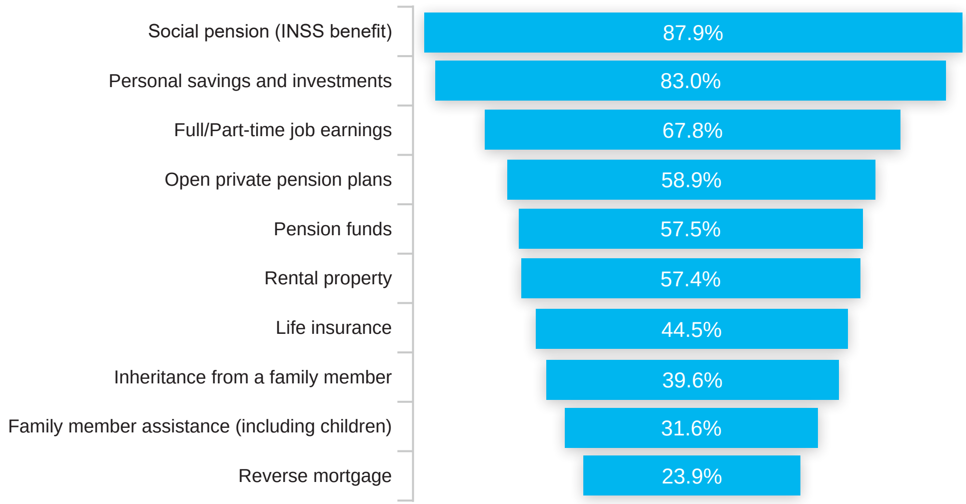
Income in retirement — whether current or planned — has more than one source. The two main sources are Social Security, closely followed by income from personal savings and investments.

Half of Brazilian's consumers consider themselves responsible for providing retirement funds (via financial investments and planning), but that does not mean they do not rely on state funding as well. For nearly 90 percent of households, current or planned retirement income includes the social pension benefit, followed closely by personal savings and investments (83 percent), and income from full- or part-time employment (67.8 percent). These findings demonstrate that Brazilian retirees, by need or by choice, do and will remain active in the job market after retirement.

Almost 6 in 10 receive income from private supplementary pensions (from both open and closed entities), with a slightly smaller proportion receiving income from rental property and private pensions. Life insurance (45.5 percent), inheritance (39.6 percent), family assistance (31.6 percent), and reverse mortgage (23.9 percent) have relatively lower rankings. Nevertheless, between life insurance and reverse mortgages, the industry has access to a significant portion of Brazilians' retirement income (Figure 16).

Figure 16 — Planned or Current Source of Income in Retirement

Question: Please indicate which of the following sources of income your household currently receives (if already retired) or expects to receive during retirement.

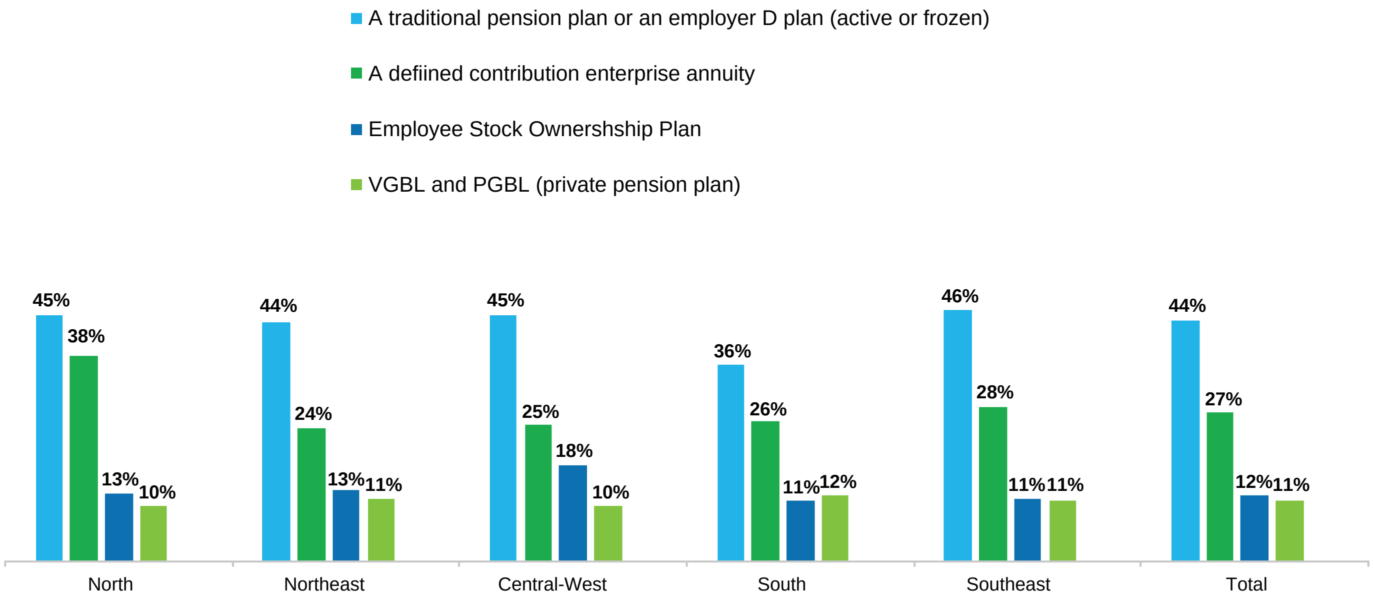


Almost half of the country's current workforce has defined benefit (DB) pension plans, while a third has defined contribution (DC) plans.

DB plans are still dominant within Brazil's labor market, while DC plans are starting to close the gap — noticeably in the North (Figure 17).

Figure 17 — Available Retirement Savings Plans in Accumulation Phase

Question: Which retirement savings plans are available to you through your current employer, work or profession? Select all that apply.

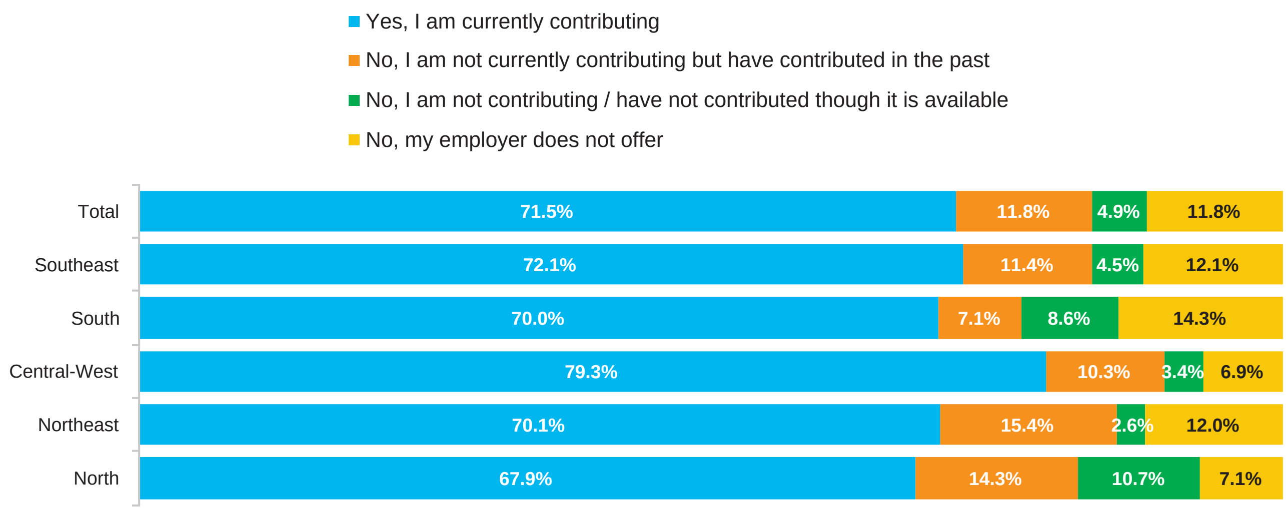


Only 4.9 percent of Brazilian workers are not contributing / have not contributed to any employer-sponsored retirement savings plans (Figure 18). A small proportion are not currently contributing (11.8 percent), but have done so in the past — the same proportion of workers whose employers do not offer these benefits.

The richest and most developed regions of the country, the South and Southeast, have the highest percentages of employers not offering a retirement savings plan — likely due to a high level of informality in the labor market. The Central-West region has the highest rate of workers (79 percent) contributing to any employer-sponsored retirement savings plan.

Figure 18 — Contribution Status During Accumulation Phase of Any Employer-Sponsored Retirement Savings Plans

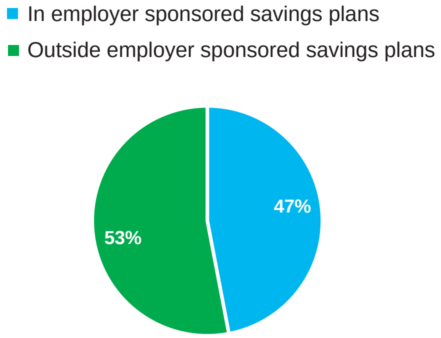
Question: Are you currently contributing or have contributed to any employer-sponsored retirement savings plans like an enterprise annuity (or provident funds)?



Clearly, employer sponsored savings plans have a significant role in generating retirement savings. Almost half (47 percent) of Brazilian household retirement savings are in employer-sponsored plans (Figure 19).

Figure 19 — The Importance of Offering Employer-Sponsored Retirement Savings Plans

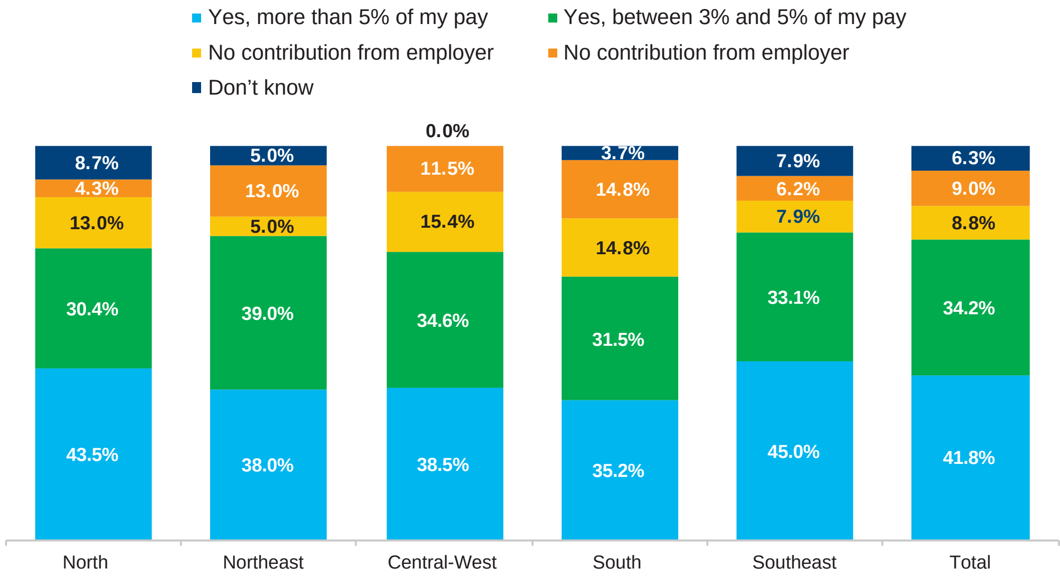
Question: What percent of all of your (both working professionals and retirees) household's savings for retirement are…



More than 4 of 10 Brazilian employees (41.8 percent) receive an employer contribution match above 5 percent of pay in DC plans, and another 3 of 10 (34.2 percent) receive a match between 3 percent and 5 percent of pay. Employer-contribution matches of more than 5 percent are more common in the Southeast (Figure 20).

Figure 20 — DC Plans — Employer-Contribution Match

Question: Does your employer currently match all or a portion of your contribution to the DC retirement savings plan(s) it offers (e.g., 50 cents on the dollar for the first 6 percent of pay contributed)? Please select one.

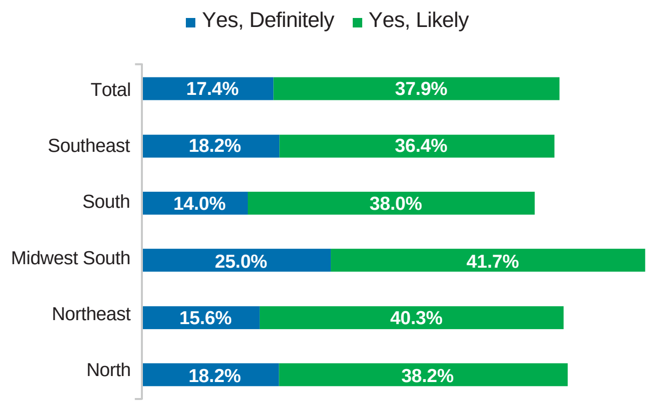


Over half (55 percent) of respondents believe that the income earned from their social pensions (INSS) and from their complementary defined benefit plans is or will be sufficient to provide for basic living expenses in retirement. Almost 20 percent of this universe shows even higher confidence levels — especially in the Central-West region, where almost 67 percent say income is / will be "absolutely" or "likely" sufficient (Figure 21).

This high level of confidence may indicate a similarly good level of financial retirement preparation and discipline on the part of those who have already retired and who are about to retire.

Figure 21 — Income From Employer-Sponsored DB and Social Pensions Likely to Cover Basic Living Expenses in Retirement

Questions: Is the amount of income (if retiree) / do you expect the amount of income (if preretiree) obtained from a social pension and employer-sponsored DB pension enough to provide for your basic living needs in retirement?



Note: Answer options were: "*Yes, absolutely," "Yes, likely," "No, unlikely," "No, definitely not," and "Don't know*." Due to the high level of optimism in the survey, only "*Yes, absolutely"* and "*Yes, likely"* results are shown in the above chart.

Rental income is not a popular way to generate retirement income.

Although the preferred strategy to generate income from retirement savings varies by region, there is a general preference for financial products that provide guaranteed lifetime income and interest and dividend options, leaving capital intact.

Respondents show an interest in reverse mortgages (24.5 percent) and corporate annuities with tax benefits (32 percent). Investing in real state to generate rental income is less preferred by respondents, at only 5 percent (Table 8).

Table 8 — Financial Strategy to Generate Income From Retirement Savings

Question: Which of the following best describes how your household plans to generate income from retirement savings? Please select all that apply.

	North	Northeast	Central-West	South	Southeast	Total
Withdrawal Preferences						
Withdraw some principal and some interest on a regular basis	21.8%	17.7%	20.0%	14.7%	15.7%	16.6%
Withdraw some principal and some interest on an occasional basis, or when needed	36.4%	22.5%	35.0%	33.3%	31.6%	30.3%
Withdraw only interest and dividend earnings, but not withdraw any principal	18.2%	24.7%	23.3%	17.3%	23.9%	22.8%
Buy or look for a product that will convert some or all of household savings into guaranteed lifetime income	38.2%	29.0%	33.3%	32.7%	37.0%	34.5%
None. My household has no intention of using retirement savings for income	9.1%	9.1%	15.0%	6.0%	7.7%	8.2%
Real Estate and Annuities						
A corporate annuity with a tax benefit	27.3%	32.0%	23.3%	33.3%	33.4%	32.2%
Invest retirement savings in property and generate rental income	5.5%	3.0%	6.7%	6.7%	5.4%	5.1%
Opt for a reverse mortgage	27.3%	20.8%	25.0%	22.7%	26.3%	24.5%
Temporary private income	10.9%	10.4%	15.0%	6.7%	11.1%	10.5%
Don’t know	7.3%	11.7%	6.7%	12.0%	13.0%	11.9%

In addition to identifying investment preferences, it is also important to understand when consumers plan to retire and whether their savings are sufficient to fund their retirement needs. The industry also needs to understand the consumer perspective on the time needed to save and invest for retirement, how many years they expect retirement to last, and their life expectancy from age 60 onwards.

The majority of Brazilian consumers are not early savers/investors for retirement. Only 15.8 percent start saving and investing around age 20 and plan to do so for 45 years until reaching the current full retirement age of 65, regardless of continuing or not to work after formal retirement (Figure 22).

Figure 22 — Retirement Savings/Investment Period

Questions: At what age do you expect to retire? If retiree, at what age did you start saving/investing for retirement? If working, at what age do you expect to start saving/investing for retirement?

Brazil		
Started/will start saving/ investing for retirement:	Years to save/invest:	Actual and expected retirement age:
15.8% At age 20	45	25% At age 65

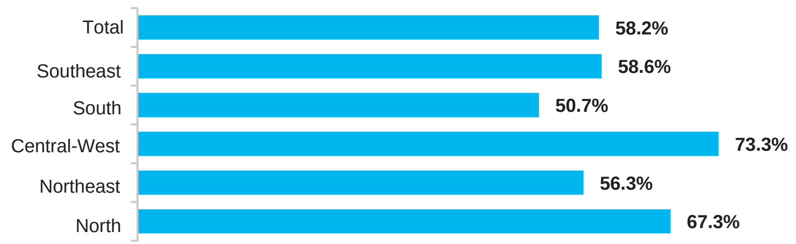
Nearly 6 out of 10 consumers regret having made a late start saving for retirement — or not starting at all.

The majority of Brazilian consumers, 6 out of 10, regret delaying saving and investing for retirement. The feeling of regret is greatest in the North and Central-West (Figure 23).

In addition, more than 30 percent of workers expect to accumulate more than 81 percent of their total retirement funds. The expectations are less optimistic (below 80 percent) in the North and Northeast (Figure 24).

Figure 23 — It Is Common to Postpone Saving and Investing for Retirement

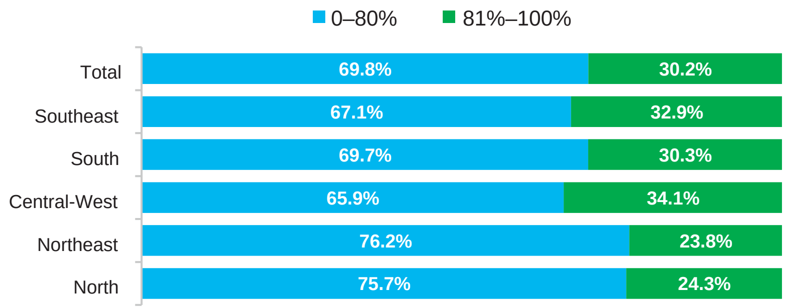
Question: Do you agree with this statement: "I regret I started saving and investing for retirement a bit late"? Results according to answers "Yes" and "I have NOT yet started saving for retirement."



At least 70 percent anticipate retiring with less than 80 percent of their total retirement funds at age 60.

Figure 24 — Expected Percentage of Total Retirement Funds

Question: What percentage of total retirement funds (that you may need to sustain a comfortable retired life) do you anticipate to have when you turn 60 years old?



Brazilian consumers tend to overestimate life expectancy at age 60.

Brazilians tend to overestimate their life expectancy from age 60 onwards by about 4 percent. This miscalculation might have positive consequences, if consumers were to save more than thy needed for the span of their final years (Figure 25).

Figure 25 — Anticipated Life Expectancy Versus Current Actual Life Expectancy at Age 60

	Argentina	Brazil	Chile	Columbia	Mexico	Peru
Estimated expected years in retirement at age 60	21.5	20.2	19.6	25.2	20.7	20.6
Versus						
Actual expected years in retirement at age 60	19.3	19.4	23.5	20.4	18.2	20.4
+ / –	11%	4%	-17%	24%	14%	1%

Note: For comparison purposes, data are from the 2035 – 2040 UN population cut period, considering the age groups and quotas used in the study.

The main financial concerns associated with retirement are those related to health, economy, market conditions, and public policies. Respondents in the South and Central-West are particularly concerned about the impacts of tax increases and inflation. The Northeast's greatest concern (84 percent) is that the government will reduce pensions.

Most consumers are also concerned about reduced pension benefits upon retirement, health costs not covered by a health insurance plan, and a chronic illness that could drain retirement savings (Table 9).

In health, consumers' major concerns focus on being able to pay healthcare costs that are not covered by private insurance, as the public health system is considered to be of extremely poor quality. Previous research has shown the consistency of these concerns.[32] In fact, 60 percent of lifelong medical care expenses occur in old age, specifically after age 65.

On the other hand, retirees who continue working have indicated in other studies that they can prolong their working lives indefinitely or "for as long as I can properly function." However, many also expressed concern about having difficulty finding or maintaining a job after retirement age.

[32]Poblete, Hernán, Fabiana Cunha, *Longevity Study*, Bradesco Seguros, IMR Brasil, 2014.

Table 9 — Retirement-Risk Concerns

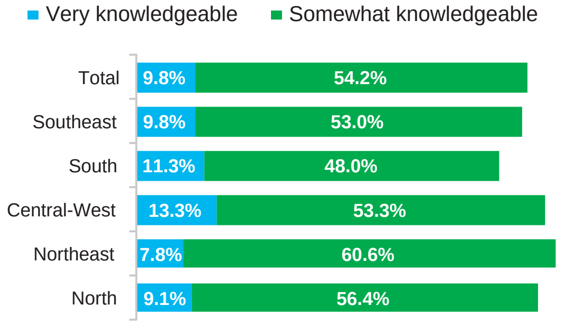
Question: How concerned are you about each of the following during retirement?

	North	Northeast	Central-West	South	Southeast	Total
Longevity Risks						
The possibility that you or your spouse/partner will outlive your assets	56.4%	71.0%	63.3%	62.0%	68.2%	67.0%
Providing for your spouse/partner if you should die first	65.5%	64.9%	66.7%	54.0%	69.3%	65.8%
Providing for you if your spouse/partner should die first	61.8%	68.4%	56.7%	55.3%	66.4%	64.5%
Health and Long Term Care Risks						
Providing for healthcare costs beyond social insurance medical supplement	83.6%	87.0%	83.3%	78.7%	86.4%	85.1%
Finding available long-term care/nursing-home care	61.8%	61.9%	60.0%	63.3%	63.6%	62.9%
A chronic Illness may drain my life-long savings	81.8%	84.0%	80.0%	76.0%	84.3%	82.7%
Caring for elderly people	65.5%	68.0%	63.3%	57.3%	63.8%	63.8%
Public Policy Risks						
The government or company will reduce pension benefits	78.2%	84.0%	80.0%	82.7%	80.4%	81.3%
The government or company will reduce health or medical insurance benefits	83.6%	82.7%	85.0%	79.3%	80.5%	81.3%
Aging society will make it harder for the government to provide for the elderly	70.9%	79.7%	66.7%	74.0%	80.0%	77.8%
Economy and Market Risks						
The value of your savings and assets might not keep up with inflation	74.5%	86.6%	86.7%	78.7%	82.0%	82.4%
Tax increases	80%	87.4%	90.0%	85.3%	86.1%	86.2%
A prolonged stock market downturn	65.5%	64.5%	58.3%	58.0%	60.5%	61.2%
A decline in interest rates	65.5%	75.8%	70.0%	70.0%	71.8%	72.0%
Increase in inflation	85.5%	87.4%	91.7%	84.0%	85.5%	86.1%
Continue working after I retire	72.7%	58.9%	70.0%	58.7%	67.9%	65.0%
Family Risk, Heirs						
My child/children are ***NEETs*** group (neither go to college nor go to work and remain financially dependent on parents even when they are adults).	36.4%	45.5%	46.7%	40	45.2%	44.1%
Not yet started planning for retirement	55.0%	64.4%	70.0%	56.9%	63.3%	62.6%
Not being able to leave money to my children or other heirs	58.2%	59.3%	63.3%	54.0%	59.3%	58.7%
My child/children may not take care of me and my spouse during retirement	49.1%	61.9%	56.7%	55.3%	60.7%	59.4%
Inability to find or maintain employment in retirement	58.2%	64.5%	70.0%	64.0%	63.4%	63.8%

Note: This table shows consolidated results of "major concerns" and "minor concerns."

Figure 26 — Self-assessment of Financial Knowledge

Question: In general, how knowledgeable do you think you are about investments or financial products?



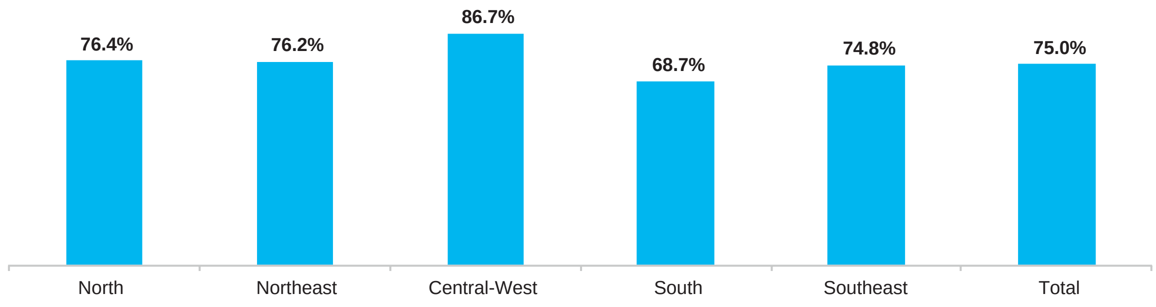
Note: Four options were offered to respondents: “Expert,” “Somewhat knowledgeable,” “Not very knowledgeable,” “Not at all knowledgeable.” The above results represent: “Expert” and “Somewhat knowledgeable.”

Half of Brazilians households believe that individuals themselves are responsible for accumulating sufficient retirement funding — suggesting the need for a solid understanding of financial products. Yet, according to the study, consumers often do not seek professional advice for retirement planning. This behavior may be explained by the finding that more than 5 out of 10 consumers claim to have some knowledge about investments or financial products (Figure 26). It is important to keep in mind, however, that while consumers may believe they are financially knowledgeable, they nevertheless may not have sufficient ability to understand, analyze, and successfully invest in long-term financial products.

Seventy-five percent of respondents (especially from the Central-West) express a willingness to convert a portion of their assets into lifetime guaranteed annuities in retirement (Figure 27).

Figure 27 — Willingness to Convert a Portion of Assets Into a Lifetime Guaranteed Annuity in Retirement

Question: Annuities can provide a lifelong income stream in exchange for a premium payment. Individuals usually no longer have access to the assets used to pay for the annuity once it is purchased. Would you consider converting a portion of your assets or an additional portion of your assets into a lifetime-guaranteed annuity in retirement?



Note: "Yes" answer results.

Figure 28 — Consumer Interest in Purchasing a Tax-Deferred Annuity

Question: A tax-deferred annuity is a product issued by a life insurance company that allows you to save money for retirement. Taxes on earnings are not paid until retirement and you begin withdrawing money from the annuity. Annuities also offer the ability to convert the balance into monthly income payments for life. If such products were available in your market, how interested would you be in purchasing one?

Note: The above results represent responses from "Extremely interested" and "Very interested." Respondents were offered the following options: "No interest," "Somewhat interested," "Very interested," "Extremely interested."

The attractiveness of deferring taxes was significant for consumers considering the purchase of a tax-deferred annuity (Figure 28). Overall, 35.4 percent of Brazilians, especially in the Southeast said they were very interested or extremely interested in this type of product.

Table 10 — Source of Information on Investments, Financial Products, or Retirement Planning

Question: Where do you obtain information on investments, financial products, or retirement planning? Select all that apply.

	North	Northeast	Central-West	South	Southeast	Total
Workshops and/or seminars	9.1%	10.0%	18.3%	6.0%	11.4%	10.6%
Booklets, pamphlets, or other written materials provided by employer	12.7%	9.1%	6.7%	6.7%	7.5%	8.0%
My own financial advisor/planner/ insurance agent	38.2%	25.1%	40.0%	26.0%	25.0%	26.7%
Employer (e.g., human resources or benefits department)	5.5%	13.4%	16.7%	13.3%	16.8%	15.0%
Representatives from the company managing my employer's defined contribution retirement savings plan	10.9%	13.9%	16.7%	14.0%	15.2%	14.6%
Website with information on my specific retirement account	27.3%	21.6%	30.0%	23.3%	26.3%	25.1%
Social media/networking websites	29.1%	24.2%	33.3%	26.0%	26.6%	26.5%
Mobile apps	23.6%	17.3%	26.7%	18.0%	17.0%	18.1%
Family, friends, or co-workers	27.3%	39.8%	45.0%	30.0%	37.5%	36.8%
Internet/financial websites	61.8%	53.2%	61.7%	56.7%	59.3%	57.9%
Websites, other	27.3%	28.6%	23.3%	29.3%	34.8%	31.6%
Books, magazines, and newspapers	30.9%	21.2%	23.3%	24.7%	19.8%	21.6%
Television or radio programs	16.4%	17.3%	13.3%	20.7%	18.2%	18.0%
From nowhere, I do not know where	3.6%	7.8%	6.7%	6.0%	5.2%	5.9%

Note: This is a multiple answer question.

Digital channels, along with family, friends, or co-workers, are the preferred sources of information on investments, financial products, or retirement planning.

The combination of the urgent need and the keen interest of consumers for information on finance and retirement-planning education makes it even more important for the financial services industry to refine its outreach. This study identifies behaviors and perceptions related to retirement planning and product preferences. Before consumers make the decision to buy annuities and other financial products for retirement income, they often contact different sources of information on investment options and products (Table 10). In Brazil, where many people plan to retire without professional retirement planning, it is extremely important for the industry to provide information that is easy to understand and easy to find. It is equally critical that the information be accurate and helps consumers take action for a positive outcome.

Digital channels have become one of the popular sources of information for Brazilian consumers, and nearly a quarter access financial sites for data and knowledge. In fact, websites are the favorite option, especially among younger generations. Therefore, instead of — or in addition to — relying on traditional methods of communication and education, such as workshops, seminars, television, radio or newspaper messaging, the industry needs to explore how to use the power of the internet and social media to reach current and prospective consumers.

Financial websites are the preferred source of information for consumers; information from financial advisors/planners and insurance agents is considered to be very useful, although not the most-sought-after source.

Table 11 — Usefulness of Information Sources

Question: Which information source did you find the most useful?

	North	Northeast	Central-West	South	Southeast	Total
Internet/financial websites	28.3%	21.1%	23.2%	24.1%	26.9%	25.2%
My own financial advisor/planner/ insurance agent	22.6%	16.4%	32.1%	17.7%	15.8%	17.5%
Family, friends, or co-workers	7.5%	12.7%	17.9%	8.5%	10.9%	11.2%
Websites, other	11.3%	7.0%	7.1%	9.9%	7.0%	7.6%
Website with information on my specific retirement account	5.7%	7.0%	5.4%	4.3%	8.9%	7.4%
Representatives from the company managing my employer's defined contribution retirement savings plan	3.8%	6.6%	0	7.8%	6.0%	5.9%
Social media/networking websites	3.8%	5.2%	3.6%	5.0%	5.3%	5.0%
Books, magazines, and newspapers	7.5%	4.2%	0	5.0%	3.6%	3.9%
Employer (e.g., human resources or benefits department)	0	5.2%	3.6%	3.5%	3.6%	3.7%
Mobile apps	0	4.2%	0	6.4%	3.2%	3.5%
Television or radio programs	1.9%	4.2%	3.6%	2.1%	3.6%	3.4%
Other	3.8%	1.9%	3.6%	3.5%	2.6%	2.7%
Workshops and/or seminars	3.8%	2.8%	0	0.7%	1.7%	1.8%
Booklets, pamphlets, or other written materials provided by employer	0	1.4%	0	1.4%	0.9%	1.0%

Note: Table 11 answer options align with those for the question (Table 10) on the preferred method for information on investments, financial products, or retirement planning. Note: Respondents were allowed to choose only one option. Results below 5 percent represent an option chosen for a sample of 10 or less.

For 25 percent of Brazilian consumers, information obtained from the internet is very useful and is the first option for obtaining information about a product. Although the preference for direct contact with a financial advisor/planner/insurance agent is lower (17 percent), consumers rate these channels as "very useful" also (Table 11). These are trained professionals with solid product knowledge, delivering information in a clear and easy to understand manner. The benefit of a human touch and face-to-face interaction should not be overlooked. The two preferred channels complement each other and work in a kind of multichannel symbiosis, where online information and engagement become a lead for contact with a professional.

Across regions, consumers indicated a preference for more conservative product features such as guaranteed income and capital preservation.

The study also asked participants to indicate, apart from cost issues, preferences regarding product characteristics or financial investments that could be used to generate retirement income. Perhaps, as expected, the preference for guaranteed lifetime income was the most preferred feature, followed by inflation-adjusted income, principal capital protection, and fixed returns.

Consumers showed no interest in greater control over their investments and the ability to manage their portfolios. They expressed an affinity with product features such as guarantee lifetime income and income that remains fixed during retirement and offers a guaranteed return on investment.

Table 12 — Most Important Characteristics of a Financial Product in Retirement Planning

Question: Aside from issues of cost, when selecting among financial products or investments that could be used to create income in retirement, which of the following features are most important to you?

	North	Northeast	Central-West	South	Southeast	Total
Income is guaranteed for life	45.5%	60.6%	68.3%	62.0%	66.3%	63.4%
Income adjusted for inflation	58.2%	57.6%	63.3%	62.0%	63.9%	61.9%
Income will remain the same or fixed throughout retirement	61.8%	45.5%	53.3%	54.7%	52.1%	51.6%
Income has the potential for growth with market	65.5%	58.0%	73.3%	60.7%	63.8%	62.7%
Income will continue after I die or my spouse dies	54.5%	47.2%	51.7%	50.7%	52.0%	50.9%
Income amount that can be changed as needs change	54.5%	45.5%	55.0%	52.7%	55.7%	52.9%
Income can be converted into a lump sum	43.6%	38.1%	46.7%	46.0%	46.3%	44.3%
Initial investment amount is preserved or protected	54.5%	55.0%	63.3%	56.0%	60.0%	58.2%
Control over how investments are managed	58.2%	57.6%	60.0%	58.0%	60.2%	59.2%
Guaranteed returns on investments	58.2%	59.7%	71.7%	66.7%	65.7%	64.5%
Money for heirs or charities when I die	34.5%	30.7%	40.0%	29.3%	31.3%	31.5%
The ability to make withdrawals in excess of regular benefit amount	41.8%	35.5%	43.3%	43.3%	44.6%	42.2%
Option to receive predefined lump-sum or annuity payment in foreign currency	36.4%	38.1%	41.7%	32.7%	35.5%	36.1%
Single premium	25.5%	28.1%	21.7%	26.7%	30.9%	28.9%
Level premium	29.1%	29.0%	28.3%	23.3%	31.1%	29.3%
Stepped-up premium	34.5%	40.3%	48.3%	36.7%	41.6%	40.6%
Tax benefit	38.2%	39.4%	40.0%	38.7%	42.3%	40.8%
Option to withdraw entire amount as lump sum and self manage	43.6%	35.5%	40.0%	36.0%	43.6%	40.5%

The key features of the products selected by respondents were quite similar in most regions, with one or two exceptions, and most of the preferred features relate to meeting both basic and unique needs of later life (Table 12).

Banks revealed to be the preferred channel for buying financial retirement products.

While Brazilian consumers prefer to go online for information on investments, financial products, or retirement planning, they highly prefer to make their purchases at banks. The North has a marked preference for purchasing from financial professionals such as brokers or financial advisors (Table 13).

Table 13 — The Five Preferred Channels for the Purchase of Retirement Products

Question: If you were to buy a product with the features you selected, where would you like to buy it from?

	North	Northeast	Central-West	South	Southeast	Total
Bank	47.3%	58.0%	41.7%	57.3%	58.0%	56.4%
Broker/financial advisor (sells multiple products)	27.3%	13.4%	16.7%	15.3%	17.9%	17.0%
Insurance company agent	3.6%	3.9%	1.7%	4.0%	2.3%	2.9%
Pension company agent	3.6%	5.2%	15.0%	10.0%	5.5%	6.5%
Phone call	1.8%	1.7%	5.0%	1.3%	0.9%	1.4%
Post office	0	1.3%	0	0.7%	0.2%	0.5%
Insurer’s website	1.8%	6.1%	6.7%	6.0%	2.7%	4.1%
Insurance aggregator’s website	3.6%	3.0%	3.3%	0.7%	3.2%	2.8%
Mobile apps	0	1.7%	1.7%	0	2.5%	1.8%
Other channel	0	0	5.0%	2.0%	0.7%	0.9%
Insurance company	10.9%	5.6%	3.3%	2.7%	6.1%	5.6%

Maintaining physical health and well-being remains a priority for most Brazilian consumers.

Each Brazilian citizen has unique retirement goals. The top priority among consumers is to maintain good health and well-being. They also express a strong desire to spend more time with friends and family and to prepare for their later years, when they may be in a state of total dependence. Few express the desire to move from their homes to retirement condos or retirement communities (Table 14).

Table 14 — Aspirational Aspects in Retirement

Question: Many people have specific hopes and aspirations for their retirement. How important is it for you to do each of the following in retirement?

	North	Northeast	Central-West	South	Southeast	Total
Spend more time with friends and family	65.5%	60.2%	63.3%	62.7%	58.9%	60.3%
Maintain my physical health and well-being	83.6%	77.1%	85.0%	79.3%	76.4%	77.8%
Financially support my family	47.3%	48.5%	55.0%	46.7%	45.9%	47.2%
Travel more	81.8%	60.6%	68.3%	59.3%	58.2%	60.7%
Learn a new skill/hobby	36.4%	40.3%	40.0%	32.0%	35.2%	36.2%
Save up for leaving a legacy	29.1%	33.3%	31.7%	25.3%	28.4%	29.3%
Move into a nursing home	12.7%	16.9%	18.3%	15.3%	19.3%	17.8%
Remain living in my current residence	38.2%	42.4%	45.0%	37.3%	43.6%	42.2%
Move to another area in order to have comfortable climate, costs, and facilities	32.7%	33.8%	38.3%	36.7%	37.0%	36.1%
Get involved with some type of group/activity/community for retired persons	25.5%	22.5%	33.3%	26.7%	24.1%	24.7%
Move into a community for retired persons	12.7%	11.7%	16.7%	12.0%	14.5%	13.5%
Solve the care of my last years of life and total dependence	43.6%	56.3%	65.0%	58.7%	56.8%	56.7%

Note: Results represent responses of "very important."

Industry Opportunities

The industry has a significant opportunity to help solve longevity-financing problems by developing and delivering some of the products that consumers have identified in this study. The findings of this consumer survey point to attractive opportunities for the financial services industry.

- **Retirement-funding responsibility —** half of the respondents in Brazil accept personal responsibility for funding their retirements. Of this group, young workers (36 percent) and retirees (36 percent) accept the responsibility at a higher rate than preretirees (29 percent). Younger generations also evidence a readiness to take on a more proactive retirement-planning role, with less reliance on the government's public pension system. This same segment is also ready to make decisions related to retirement planning. *The industry needs to recognize this opportunity and meet the needs of younger generations with not only financial products, but also financial education and engagement.*
- **Retirement planning —** about one third of Brazilians (29 percent) indicate that they do not work with any financial professional. This trend is stronger in the Central-West and Northeast regions. In addition, 70 percent of respondents do not have a formal and written plan to manage income, assets, and expenses during retirement. *The industry, along with other stakeholders, needs to intervene and create retirement planning tools for future retirees.*
- **Main aspiration —** maintaining good health and well-being is a priority among respondents, as well as traveling more often. *These goals are not impossible to achieve, as long as people have tools to guide them.*
- **Procrastination —** half of Brazilians consider that the responsibility for retirement funding and planning belongs to the individual, not the state. However, nearly 5 out of 10 respondents regret having either delayed or not started saving for retirement. Many, in fact, take no appropriate action, preoccupied with current expenses and expenditures — as evidenced in the high levels of personal debt of recent years. The feeling of regret is higher among young people (38 percent). These "regrets" also suggest that people miscalculate how much time they need to save and invest. They certainly need the professional advice the industry has to offer. Although people are willing to take responsibility, they may not have sufficient financial knowledge to create positive retirement outcomes. *Therefore, the industry needs to focus on guiding people on when, where, and how to start saving for retirement.*
- **Loss of purchasing power —** sixty-nine percent of respondents know/anticipate that their retirement income at age 60 is/will be below their preretirement income levels, and only 30 percent have/expect to have more than 81 percent of their preretirement income. Participants in the North and Northeast have/expect the greatest purchasing-power losses among the surveyed regions. *The industry has products to fill the gap and should increase its role and participation in retirement income planning.*

- **Overestimation of life expectancy at age 60 —** in Brazil, respondents generally expect to live 4 percent longer than the actual estimate. The difference in perception affects not only retirement-income planning but also healthcare spending. The fortunate will perhaps save more than they will in fact need. Yet, as longevity increases, it becomes clear that living longer requires appropriate action and that failure to prepare fully has consequences for not only the individual but also the entire family. *Financial professionals can help consumers understand and adequately prepare for longevity risks.*

- **Willingness to buy annuities —** seventy-five percent of respondents express a willingness to convert a portion of their assets into annuities to generate retirement income, particularly in the Central-West region. Interest is high in the preretired segment, especially in the North and Southeast. *The level of consumer interest and willingness to invest in these products, as long as they fit consumers' specific needs, represents a potentially historic opportunity for the industry.*

- **Product characteristics and distribution —** respondents express strong preferences for products with conservative characteristics, in addition to products that guarantee predictable returns and help preserve capital. In addition, consumers demonstrate a desire for guaranteed lifetime income, principal-protected investment, and fixed returns. Banks are the preferred channels for buying retirement income products. Brazilian consumers are also interested in having greater control over their investments and the ability to adjust their portfolios. Specifically, they indicate an affinity for product characteristics that guarantee lifetime income and income that remains fixed during retirement and offers a guaranteed return on investments. *The industry has a significant opportunity — and responsibility — to help address the impending gap in retirement funds and to develop and deliver the products with the characteristics preferred by consumers.*

Appendix

The Spotlight on Retirement study in Brazil is part of a collaborative research project between the Society of Actuaries (SOA) and LIMRA. With the participation of 1,056 respondents, it reveals consumer perceptions related to retirement in five macro regions of the Brazilian territory: North, Northeast, Central-West, South, and Southeast.

The study sample focused on the same demographic segments of the Latin American study that included Argentina, Chile, Colombia, Mexico, and Peru: young workers (ages 30–45), preretired (ages 46–60), and retired (ages 60+).

Table A-1 — Respondents by Employment Status

Question: Are you currently…?

	North	Northeast	Central-West	South	Southeast	Total
Working full time for pay	60.0%	53.7%	43.3%	52.0%	57.3%	55.1%
Full time self-employed / family business	7.3%	15.6%	16.7%	14.0%	13.4%	13.8%
Working part time	5.5%	7.4%	6.7%	6.7%	4.6%	5.7%
Working part time even after formal retirement (i.e., receiving pension and working part time)	1.8%	3.0%	6.7%	3.3%	3.6%	3.5%
Working full time even after formal retirement (i.e., receiving pension and working full time)	3.6%	1.7%	1.7%	1.3%	2.9%	2.4%
Retired and not working for pay (i.e., receiving pension and not working)	21.8%	18.6%	25.0%	22.7%	18.2%	19.5%
Laid off or unemployed and seeking work	0	0	0	0	0	0
Disabled or unable to work	0	0	0	0	0	0
Homemaker	0	0	0	0	0	0
Full-time student	0	0	0	0	0	0

Table A-2 — Respondents by Employer Type

Question: Which of the following best describes your employer…? [IF RETIREE] From what type of employer did you retire?

Employer Type	North	Northeast	Central-West	South	Southeast	Total
The government (including public institutions controlled by the government)	32.7%	35.9%	41.7%	30.7%	31.6%	33.0%
Private company (enterprise)	58.2%	46.3%	41.7%	47.3%	47.0%	47.2%
Small- or medium-sized enterprise (SME)	3.6%	3.0%	8.3%	4.7%	6.8%	5.6%
Own company/family business	5.5%	14.7%	8.3%	17.3%	14.6%	14.2%

Table A-3 — Respondents by Household Size

Question: What is your household size?

Number	North	Northeast	Central-West	South	Southeast	Total
1	7.3%	7.4%	8.3%	7.3%	8.0%	7.8%
2	27.3%	28.1%	30.0%	33.3%	27.9%	28.8%
3	32.7%	27.3%	30.9%	27.3%	30.0%	29.2%
4	18.2%	26.4%	21.7%	23.3%	20.9%	22.3%
5	12.7%	6.9%	3.3%	6.0%	10.0%	8.5%
6	1.8%	2.2%	1.7%	2.7%	2.0%	2.1%
7	0	0.9%	3.3%	0	0.9%	0.9%
8	0	0.4%	0	0	0.2%	0.2%
9	0	0	0	0	0	0
10	0	0.4%	0	0	0	0.1%
11	0	0	0	0	0	0

Table A-4 — Respondents by Total Annual Income Before Tax[33]

Question: Which of the following ranges describes your household's pre-tax total monthly income. Please include any income from employment earnings, investments, interest, dividends, Social Security, pensions, etc.

Income Range	North	Northeast	Central-West	South	Southeast	Total
951 Real – 1800 Real	0	0	0	0	0	0
1801 Real – 3600 Real	14.5%	23.8%	20.0%	26.7%	17.9%	20.4%
3.601 Real – 8.000 Real	32.7%	33.8%	35.0%	30.7%	36.6%	34.8%
8001 Real – 15.000 Real	21.8%	22.1%	20.0%	22.0%	24.8%	23.4%
15.001 Real – 24.000 Real	18.2%	10.8%	13.3%	8.7%	11.3%	11.3%
24.001+ Real	12.7%	9.5%	11.7%	12.0%	9.5%	10.1%

Table A-5 — Respondents by Current Housing Status

Question: What is your current housing situation?

	North	Northeast	Central-West	South	Southeast	Total
I own my apartment or house	23.6%	13.9%	23.3%	14.0%	12.0%	13.9%
I rent from a landlord	10.9%	12.1%	10.0%	12.0%	11.3%	11.5%
Live with parents, other family members, friends	1.8%	3.9%	3.3%	3.3%	4.6%	4.1%
Other	1.8%	2.2%	3.3%	0.7%	1.6%	1.7%
Have a Mortgage	61.8%	68.0%	60.0%	70.0%	70.5%	68.8%

Table A-6 — Respondents by Education Level

Question: Which of the following best describes your highest level of education?

Level of Education	North	Northeast	Central-West	South	Southeast	Total
Any	0	0	0	0	0	0
Primary	1.8%	0.4%	0	0.7%	0.2%	0.4%
High school	18.2%	17.3%	13.3%	19.3%	18.4%	18.0%
Tertiary non-university	3.6%	6.9%	8.3%	6.7%	9.6%	8.2%
College	60.0%	61.9%	60.0%	52.7%	56.1%	57.3%
Master or Doctorate	16.4%	13.4%	18.3%	20.0%	15.5%	15.9%
Other	0	0	0	0.7%	0.2%	0.2%

[33]For US$, divide by 4 (as of exchange rate in January 2020).

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