European Research Studies Journal
Volume XXVIII, Issue 1, 2025

pp. 559-574

Pension Economics Paradigms and Pension System Reforms in Uruguay – Compliance Analysis

Submitted 15/01/25, 1st revision 11/02/25, 2nd revision 28/02/25, accepted 10/03/25

Jarosław Poteraj[1]

Abstract:

Purpose: *The study examines Uruguay's pension system reforms in the context of pension economics theories, particularly the overlapping generations model (OLG), the life-cycle theory, and welfare economics. The research evaluates the alignment of Uruguayan reforms with these theoretical frameworks and their impact on fiscal sustainability, benefit adequacy, and income redistribution.*
Design/Methodology/Approach: *The study adopts a qualitative research approach, utilizing a comparative analysis of pension system reforms. The research relies on legislative documents, scientific literature, and statistical data from institutions such as the OECD, the World Bank, and the IMF. The study assesses the impact of pension reforms through theoretical models and empirical evidence.*
Findings: *The 1996 reform, which introduced a mixed system, and the 2023 reform, which raised the retirement age, were intended to enhance fiscal stability and pension system sustainability. However, while the reforms align with pension economics principles, their effectiveness remains limited. The study finds that the capital-funded pension pillar (AFAP) failed to achieve the expected efficiency due to high administrative costs and low investment returns, raising the retirement age improved fiscal stability, but it also exacerbated social inequalities, particularly for low-income workers and additional redistributive mechanisms and flexible retirement options are needed to enhance pension adequacy and system fairness.*
Practical Implications: *The findings highlight the challenges of implementing pension system reforms in response to demographic shifts. The study suggests that policy adjustments should focus on reducing administrative costs, increasing transparency, and promoting voluntary pension savings. Additionally, a minimum guaranteed pension and adjustments to pension contribution structures could help improve benefit adequacy and social equity.*
Originality/Value: *The study contributes to pension economics literature by providing an in-depth evaluation of Uruguay's pension reforms from a theoretical and empirical perspective. The analysis offers policy recommendations relevant to countries facing similar demographic and fiscal challenges.*

Keywords: *Fiscal sustainability, pension system reform, income redistribution, retirement age, social security, welfare economics.*

JEL Codes: *H55, J26, G23.*

Paper Type: *Research Paper.*

[1]*University of Lomza, Department of Economics and Finance, Poland,*
e-mail: jpoteraj@al.edu.pl;

1. Introduction

Pension systems constitute a crucial element of social and economic policy, playing a key role in ensuring income stability for individuals who have ended their professional activity. Their structure and functioning are closely linked to demographic, fiscal, and market conditions, as well as to pension economics theories such as the overlapping generations model (OLG), the life-cycle theory, and welfare economics (Barr and Diamond, 2008). Given the global trend of population ageing, pension systems undergo continuous reforms aimed at enhancing their financial stability, efficiency, and benefit adequacy (Feldstein, 1974).

Uruguay, being one of the first countries in Latin America to implement a universal pension system, has been evolving for over a century in response to demographic and economic challenges. Initially based on a pay-as-you-go (PAYG) financing system, the Uruguayan pension system has undergone significant reforms, including the introduction of capital-funded elements in 1996 and the most recent reform in 2023, which raised the retirement age (Banco de Previsión Social, 2023). These transformations aimed to reduce the fiscal deficit and enhance the long-term stability of the system; however, their impact on income redistribution and the efficiency of pension savings remains a subject of debate.

This article analyses pension system reforms in Uruguay in the context of pension economics theories, particularly the overlapping generations (OLG) model and the life-cycle theory, as well as the concepts of rational choice and welfare economics.

The study will assess the alignment of Uruguayan reforms with the fundamental principles of these theories and their impact on key aspects of the system's functioning, such as fiscal balance, benefit adequacy, and income redistribution (Modigliani and Brumberg, 1954; Samuelson, 1958). The analysis will also address the challenges associated with the implementation of the capital-funded pillar and the effectiveness of measures taken to increase the retirement age.

The research methodology is based on a qualitative analysis, including a review of scientific literature, reports from international financial institutions, and legislative documents. This article presents the key pension system reforms in Uruguay and evaluates them in light of contemporary pension economics theory. The following sections include a literature review on pension system models, an analysis of the historical development of Uruguay's pension system, a discussion of the effects of the reforms, and proposals for further policy directions.

2. Literature Review

Pension systems are one of the key components of social security, and their structure has evolved over decades in response to changing demographic and economic conditions. Economic literature distinguishes two fundamental models of pension

system financing: the pay-as-you-go (PAYG) system and the capital-funded system.

2.1 Theoretical Foundations of Pension Systems

The PAYG model was described in the classical overlapping generations (OLG) model by Samuelson (1958) and later developed by Diamond (1965), highlighting that financing pensions through contributions from the working-age population may lead to financial difficulties when the ratio of workers to retirees declines (Barr, 2013). Alternatively, the capital-funded model relies on individual savings and the investment of pension contributions, which can contribute to greater system stability but also entails risks associated with financial market fluctuations (Barr and Diamond, 2008; Cristea and Thalassinos, 2016; Thalassinos *et al*., 2019).

The life-cycle theory by Modigliani and Brumberg (1954) suggests that individuals rationally plan their savings and expenditures throughout their lives, aiming to smooth consumption over time. In the context of pension systems, this implies that workers should save for retirement during their working years to maintain their consumption level in later life.

Yaari (1965) introduced the life-cycle model, which describes consumption and saving decisions under the uncertainty of life expectancy. Blanchard (1985) extended this model by incorporating elements of inheritance and intergenerational transfers, further emphasizing the importance of individual financial decisions in capital-funded systems.

Life-cycle models serve as the foundation for capital-funded pension systems, which promote individual savings as a complement to state pension benefits (Feldstein, 1974). However, critics of this theory argue that behavioral constraints and information asymmetry may lead to insufficient savings, thereby justifying the existence of mandatory pension systems (Barr and Diamond, 2008).

Rational choice theories, developed within neoclassical economics, assume that individuals make pension decisions based on complete information and long-term planning. Milton Friedman (1957), in his permanent income hypothesis, emphasized that consumers adjust their expenditures according to their expected long-term income, which influences their pension savings decisions. His concept highlights the crucial role of private savings in supplementing retirement income and can be applied to analyze the effects of introducing capital-funded elements into pension systems. The application of these theories in pension reforms led to the introduction of capital-funded pillars, designed to allow individuals to accumulate savings according to their preferences.

However, empirical studies have shown that, in reality, behavioral factors such as economic myopia, inadequate financial literacy, and uncertainty about the future often result in insufficient savings (Thaler and Sunstein, 2008).

Welfare economics, in turn, emphasizes the role of the state in ensuring benefit adequacy and income redistribution within society (Weber *et al.,* 2016). OECD studies (2018) indicate that well-designed pension systems should balance financial stability with benefit adequacy, which poses a challenge for countries implementing reforms.

2.2 The Impact of Pension Reforms on Fiscal Stability and Benefit Adequacy

Empirical studies indicate that pension system reforms have a significant impact on a country's financial stability and benefit adequacy. OECD research (2018) shows that countries introducing capital-funded elements often experience an initial increase in transition costs, but in the long run, these reforms contribute to stabilizing public finances. At the same time, such systems may lead to increased social inequalities if they are not supported by appropriate safeguarding mechanisms (Weber *et al.,* 2016).

The 1996 reform of the Uruguayan pension system, which introduced a mixed system, aligns with the theoretical assumptions of the OLG model and rational choice theory. The introduction of a capital-funded pension pillar was intended to reduce fiscal pressure on the state budget; however, in practice, high administrative costs and lower-than-expected returns limited the effectiveness of this reform (Saldain, 2020). Similar issues have been observed in other Latin American countries, including Chile and Argentina (Banco de Previsión Social, 2023).

The 2023 reform, which increased the retirement age, was implemented to extend the contribution period and reduce the fiscal deficit. While the life-cycle theory suggests that a longer working life can contribute to increased savings and system stability, studies indicate that raising the retirement age may lead to social issues, particularly for lower-income groups and those engaged in physically demanding occupations (Thaler and Sunstein, 2008).

The latest studies by the International Monetary Fund (International Monetary Fund, 2023) analyze the impact of pension reforms on Uruguay's fiscal stability, emphasizing the need to adjust pension policy to evolving demographic conditions.

In summary, the literature indicates that the effectiveness of pension system reforms depends on their ability to balance fiscal stability with the provision of adequate benefits. Effective pension systems must consider both individuals' rational choices and behavioral constraints, requiring an appropriate combination of pay-as-you-go and capital-funded elements to ensure stability and benefit adequacy.

Uruguayan reforms align with global trends in adapting pension systems to demographic challenges; however, their effectiveness requires further research and evaluation in the context of long-term stability and social equity.

3. Research Methodology

This study employs a qualitative approach based on a comparative analysis of pension system reforms in Uruguay within the framework of pension economics theories. The analysis includes the following elements:

- Review of legislative documents – including pension laws, government reports, and documentation from Banco de Previsión Social.
- Analysis of scientific literature – covering publications on pension economics theories and studies related to the Uruguayan pension system.
- Statistical data – utilizing reports from the OECD, the World Bank, and the International Monetary Fund to assess the impact of reforms on fiscal stability and benefit adequacy.
- Comparative approach – referencing Uruguayan reforms in relation to key pension system theories, such as the OLG model, Friedman's permanent income hypothesis, and the life-cycle theory of Modigliani and Brumberg.

The analysis will be descriptive and interpretative, focusing on assessing the effects of reforms in light of pension economics theories and their impact on the long-term stability of Uruguay's pension system. The study also incorporates economic forecasts and analyses of the reforms' impact on public finances, based on reports from Uruguay's Ministry of Economy and Finance (Ministerio de Economía y Finanzas de Uruguay, 2023).

4. Research Results and Discussion

4.1 General Information about the Country

The Oriental Republic of Uruguay (*República Oriental del Uruguay*) is a country located in the southeastern part of South America, bordering Brazil to the north and Argentina to the west, with the Atlantic Ocean to the south. Administratively, the country is divided into 19 departments (*departamentos)*, and its capital is Montevideo. The official currency is the Uruguayan peso (UYU, *peso uruguayo*), and the official language is Spanish.

As of July 2024, Uruguay's population was approximately 3.42 million, with the following age distribution: 0–14 years – 20.3%, 15–64 years – 63.5%, and 65 years and older – 16.2% (Worldometer, 2024; Population Today, 2024). The average life expectancy was 78.5 years, with 75.2 years for men and 81.8 years for women (Worldometer, 2024).

Uruguay's demographic structure is characterized by a significant proportion of the population of European descent, primarily Spaniards and Italians, who constitute the majority. The dominant religion is Catholicism (approximately 47%), while a considerable portion of the population identifies as non-religious (around 40%)

(Statistics Times, 2024). Uruguay is recognized as one of the most democratic and developed countries in Latin America.

The modern political system is based on the 1967 Constitution (with subsequent amendments). The head of state and government is the president, a position held by Yamandú Orsi since March 1, 2025. The major political parties include the National Party (*Partido Nacional*, PN), the Broad Front (*Frente Amplio*, FA), and the Colorado Party (*Partido Colorado*, PC) (Statistics Times, 2024).

In 2023, Uruguay's gross domestic product (GDP) per capita (PPP) was $25,900, with an economic growth rate of 2.5%. The unemployment rate remained at 8.7%. Public debt stood at 61.2% of GDP, while the current account balance recorded a deficit of $1.2 billion in 2023 (Population Pyramid, 2024; Statistics Times, 2024).

4.2 Historical Development of the Pension System in Uruguay

The first pension schemes in Uruguay date back to 1829, when a pension system was introduced for soldiers who fought for the country's independence. This was one of the earliest social security systems in Latin America, aimed at providing financial support to veterans and their families. The benefits were funded directly from the state budget and did not include a contributory system (Saldain, 2008b).

In 1896, the pension system was extended for the first time to include public sector employees, including government administration and the military. This system was limited in scope and relied on government budget transfers, without requiring employee contributions. The amount of benefits depended on the position held and years of service; however, the absence of long-term financing mechanisms led to increasing deficits (Banco de Previsión Social, 2023).

In 1928, the pension system was expanded to include railway and public service employees. Mandatory pension contributions were introduced, linked to salary levels. This period also saw the establishment of the first publicly managed pension funds, marking the beginning of systematic pension financing. Over time, additional professional groups were included, but the creation of numerous separate pension funds led to system fragmentation (Saldain, 2020).

In 1954, a key reform was introduced, establishing *Banco de Previsión Social* (BPS) as the central institution managing the pension system. This reform aimed to improve the efficiency of contribution management and benefit payments, as well as to standardize pension eligibility rules.

The retirement age was set at 60 years for men and 55 years for women, with a minimum contribution period of 30 years. While this reform provided greater system stability, it also increased the state's fiscal burden (Banco de Previsión Social, 2023).

Throughout the 1960s and 1970s, the pension system was gradually expanded to include other professional groups, such as the agricultural and service sectors. New categories of social insurance were introduced, and certain professional groups were granted privileges, such as the ability to retire earlier or pay lower contributions. As a result, the number of beneficiaries increased, and combined with limited contribution revenues, this led to growing financial challenges for the PAYG system (Saldain, 2020).

The increasing number of retirees in the 1990s, along with rising life expectancy, made the PAYG system increasingly financially unsustainable. Inspired by the pension reforms implemented in Chile, the Uruguayan government introduced a reform in 1996 that changed the pension financing model by establishing a mixed system combining PAYG and capital-funded elements. This reform was a key step in adapting Uruguay's pension system to evolving demographic and macroeconomic conditions (Banco de Previsión Social, 2023).

4.3 The 1996 Reform – Introduction of the Mixed System

The 1996 pension reform was one of the most comprehensive measures aimed at modernizing Uruguay's pension system. It introduced a mixed system in which a portion of pension contributions remained within the PAYG system, while the remaining part was redirected to private pension funds managed by *Administradoras de Fondos de Ahorro Previsional* (AFAP) (Banco de Previsión Social, 2023).

These changes aimed to:

- Reduce fiscal pressure on the PAYG system by introducing individual retirement accounts.
- Enhance the long-term stability of the system by diversifying pension financing sources.
- Increase private sector participation, allowing it to manage part of the pension funds, which involved investing these funds in financial markets.

Initially, the reform was well received; however, over the years, it became evident that the AFAP system did not fully meet the expectations regarding efficiency and benefit adequacy. The main criticisms were directed at the high administrative fees and the low return on investments (Saldain, 2020).

4.4 The 2023 Reform – Raising the Retirement Age

In 2023, another significant pension system reform was introduced, with the primary objective of raising the retirement age from 60 to 65 years. This decision was justified by:

- Increasing life expectancy, which led to a rise in the number of pension

system beneficiaries.
- A fiscal crisis resulting from the growing deficit in the pension fund.
- The need to align the system with international trends, particularly the recommendations of the World Bank and the International Monetary Fund.

Raising the retirement age had key consequences:

- Improved fiscal balance of the PAYG system, as longer professional activity extended the contribution period.
- Increased social inequalities, since lower-income individuals often could not extend their working years due to health conditions.
- A potential decline in public trust in the system, as the reform altered retirement conditions for millions of citizens (Banco de Previsión Social, 2023).

In October 2024, a referendum was held on lowering the retirement age from 65 to 60 years and linking minimum pensions to the minimum wage. The proposed changes were controversial due to their potential impact on increasing the budget deficit by approximately 4% of GDP (Financial Times, 2024; Bankier, 2024).

4.4 Current State of the Pension System in Uruguay – as of February 1, 2025

Uruguay's pension system is based on a three-pillar social security model, which includes: the state pay-as-you-go (PAYG) system, the capital-funded pension system, and supplementary retirement savings.

The State Pay-As-You-Go System (*Sistema de Reparto*), managed by the Social Security Bank (*Banco de Previsión Social*, BPS), covers both public and private sector employees. Benefits are financed through contributions from employees, employers, and the state budget.

The state PAYG system includes all employees working under an employment contract and self-employed individuals who have not joined the AFAP system, as well as those whose income falls below a specified wage threshold. Individuals born before April 1, 1956, are automatically enrolled in this system unless they have opted for private pension funds (Social Security Programs Throughout the World: The Americas, 2019).

Public and private sector employees contribute 15% of their gross salary, while employers pay an additional 7.5% toward the PAYG system (Ley N° 20.130, 2023). Self-employed individuals contribute 15% of their monthly income, with the option to allocate part of their contributions to an AFAP account if their income exceeds a defined threshold. In cases of budget deficits within the system, the government provides additional funding to ensure the stability of benefit payments (Ministerio de Trabajo y Seguridad Social, 2024).

The minimum retirement age for individuals born before 1972 is 60 years, whereas for those born later, the retirement age has been raised to 65 years (Banco de Previsión Social, 2023). Retirement is possible after accumulating at least 30 years of contributions, although individuals with 40 years of work experience may retire earlier (Saldain, 2008a).

Women are allowed to reduce the required contribution period by one year per child, with a maximum reduction of five years (Social Security Programs Throughout the World: The Americas, 2019).

The pension amount is calculated based on either 45% of the average earnings from the last 10 years or 105% of the average earnings from the best 20 years, whichever is more favorable for the retiree (Ministerio de Trabajo y Seguridad Social, 2024). Each additional year of work beyond 30 years increases the pension by 1% up to 35 years of contributions, while further years beyond 35 years result in a 0.5% increase per year, up to 40 years of contributions (Saldain, 2008a).

The minimum pension in 2025 is UYU 20,057. Pension benefits are adjusted annually according to the Average Wage Index (*Índice Medio de Salarios*, IMS) (Ministerio de Trabajo y Seguridad Social, 2024).

The PAYG system also offers the option to defer retirement, which increases the pension benefit by 3% for each additional year of work, up to a maximum of 30% of the base pension amount (Ley N° 20.130, 2023).

There is also an option for partial retirement, allowing individuals to receive pension benefits while continuing to work part-time (Saldain, 2008).

Individuals aged 65–70 years who have not met the 30-year contribution requirement may qualify for a special benefit based on advanced age (Banco de Previsión Social, 2023).

The capital-funded pension system, introduced by the 1996 reform, operates based on individual retirement accounts (AFAP – Administradoras de Fondos de Ahorro Previsional). It is a mandatory system for individuals earning above a specified income threshold and is managed by private pension funds.

The capital-funded pension system in Uruguay, known as *Administradoras de Fondos de Ahorro Previsional* (AFAP), was introduced as part of the 1996 reform and constitutes the second pillar of the Uruguayan pension system. Its purpose is to supplement benefits provided by the state PAYG system (*Sistema de Reparto*) by accumulating individual retirement savings.

This system operates through mandatory and voluntary contributions to individual retirement accounts, which are managed by private financial institutions (AFAPs)

under the supervision of the Central Bank of Uruguay (*Banco Central del Uruguay*, BCU).

All employees whose income exceeds a specified wage threshold are mandatorily enrolled in the capital-funded system, as well as individuals born after April 1, 1956, who did not have the option to remain solely in the PAYG system. Employees earning below this threshold can choose whether to join AFAP or remain in the state pension system. Self-employed individuals also have the option to voluntarily enroll in the system.

Each participant contributes 15% of their gross salary, with 7.5% allocated to the state PAYG system and the remaining 7.5% directed to their individual retirement account within AFAP. Employers, as in the PAYG system, are required to make additional contributions to social security, although part of this contribution does not go to AFAP but instead supports the state pension system.

Funds accumulated in individual accounts are invested in the capital market to generate returns and ensure higher future benefits. AFAP regulations define the permissible types of investments to limit financial risk and provide stable income for future retirees.

The minimum contribution period in the capital-funded system is 30 years, and the retirement age follows the same rules as the state system: 60 years for individuals born before 1972 and 65 years for younger participants. Upon reaching retirement age, the accumulated funds can be used to purchase a lifetime annuity or be withdrawn in installments, depending on the option chosen by the beneficiary.

The AFAP pension is calculated based on the total savings accumulated and expected life expectancy, meaning that the benefit amount varies depending on investment performance and the number of contribution years.

Individuals who have not accumulated sufficient savings in their individual accounts may receive a supplementary pension from the state system to reach the minimum benefit level guaranteed by the government. In the event of a participant's death, their funds can be transferred to family members in the form of an annuity for a spouse or children.

Voluntary Retirement Savings (*Ahorro Voluntario*), which allow employees to voluntarily accumulate funds in private investment funds.

In addition to the state PAYG system (*Sistema de Reparto*) and the mandatory capital-funded system (*Administradoras de Fondos de Ahorro Previsional*, AFAP), Uruguay’s pension system offers the option of accumulating additional retirement savings.

The third pillar of the pension system consists of voluntary savings programs, designed to supplement basic pension benefits. This pillar is particularly important for individuals who wish to increase their future retirement income, as well as for those with irregular earnings or those working in sectors not covered by mandatory social security contributions.

Additional retirement savings can be accumulated in various forms, including programs offered by private financial institutions and funds managed by AFAP.

Both employees and self-employed individuals can make voluntary contributions to their individual retirement accounts within AFAP, allowing them to increase their future benefits. These contributions are subject to preferential tax treatment, encouraging additional savings.

One of the most popular methods of accumulating additional retirement savings is pension insurance offered by private insurance companies. These policies operate on the basis of regular premium payments over a specified period, after which the insured person receives either a lifetime annuity or a one-time payout of accumulated funds. Many of these policies also provide spousal protection options and the possibility of inheriting the funds by family members in the event of the insured person's death.

Banks and investment funds also play a significant role in the additional retirement savings system, offering investment and savings products designed for individuals planning long-term financial security.

These investments may include long-term deposits, investment funds with varying levels of risk, and other financial instruments that allow for gradual capital growth.
Employers can also offer occupational pension programs, in which retirement savings are jointly funded by both the employee and the employer. In many cases, employers encourage their employees to participate in such programs by providing additional contributions to their savings.

Additional retirement savings are a crucial component of Uruguay's social security policy, particularly in the context of challenges related to an aging population and the increasing costs of supporting retirees.

Although the PAYG system and AFAP provide basic pensions, an increasing number of citizens are choosing to save additionally to ensure a higher standard of living after leaving the workforce.

In recent years, the Uruguayan government has introduced additional tax incentives for individuals saving for retirement through private savings plans. These tax benefits include the deduction of contributions from taxable income and exemption from capital gains tax upon reaching retirement age.

Pension system reforms introduced in recent years aim to ensure its long-term stability in response to the growing number of elderly individuals and an aging society (OECD, 2023).

4.5 Consequences of Reforms and Compliance with Pension Economics Theory

Both the 1996 and 2023 reforms were consistent with pension economics theory in terms of adapting pension systems to demographic changes. The overlapping generations model (OLG) suggests that maintaining pension system balance requires adjusting the ratio between the working-age population and retirees.

The 2023 reform, which raised the retirement age, aimed to reduce fiscal pressure by extending the contribution period and shortening the duration of pension benefit payments. At the same time, the reform allowed earlier retirement for individuals with longer work experience, encouraging extended workforce participation (Lockton Global News, 2023).

From the perspective of the life-cycle theory (Modigliani & Brumberg, 1954), this approach is justified, as rational individuals planning their consumption and savings should adjust their decisions to increasing life expectancy. However, raising the retirement age may lead to social inequalities, as lower-income groups and those engaged in physically demanding work may have fewer opportunities to benefit from retirement due to shorter life expectancy.

The 1996 reform, which introduced the mixed system, was theoretically aligned with the assumptions of rational choice theory and market efficiency, anticipating that private pension funds would enhance the long-term stability of the system.

The implementation of the capital-funded pillar through AFAP aimed to reduce dependency on the PAYG system and introduce market mechanisms, in line with Friedman's permanent income hypothesis (1957). However, in practice, the AFAP system did not meet expectations due to high administrative fees and limited investment returns.

As a result, the growth of retirement savings capital was restricted, leading to greater disparities in pension benefits. Ultimately, it became evident that not all professional groups could participate in the new system under equal conditions, which weakened its effectiveness in terms of income redistribution and social equity.

Analyzing the reforms in the context of welfare economics, it becomes evident that while they aimed to enhance the financial stability of the system, their effectiveness in ensuring benefit adequacy remains limited.

The reforms primarily focused on fiscal aspects, but they did not sufficiently address protective mechanisms for low-income individuals or those with irregular earnings.

In particular, changes in the retirement age were not accompanied by support measures for individuals who might struggle to remain in the labor market longer.

Similarly, the AFAP system, which was intended to increase individual savings, failed to provide adequate protection against investment risk. Therefore, in the future, it may be necessary to introduce additional redistributive mechanisms to ensure a more balanced and equitable pension system.

5. Conclusions, Proposals, Recommendations

5.1 Financial Stability and Theoretical Models of Pension Systems

The 1996 and 2023 reforms in Uruguay were an attempt to adapt the pension system to demographic and fiscal challenges. In light of the overlapping generations model (OLG) (Samuelson, 1958) and the life-cycle theory (Modigliani & Brumberg, 1954), the long-term balance of the pension system requires adjusting the ratio between the working-age population and the number of beneficiaries.

In this context, the following key reform directions emerge:

- Dynamically linking the retirement age to life expectancy – in line with the OLG theory, this would ensure system stability amid a declining working-age population.
- Introducing flexible retirement options – this approach, consistent with the life-cycle theory, could mitigate the negative effects of raising the retirement age.
- Optimizing the contribution structure – in the spirit of welfare economics (Barr and Diamond, 2008), a gradual increase in contributions from higher-income individuals is recommended to enhance the redistributive nature of the system.

5.2 Effectiveness of the Capital-Funded Pillar and Market Mechanisms

The 1996 reform, inspired by rational choice theory and market efficiency, introduced the capital-funded pillar in the form of AFAP funds. However, low returns and high administrative costs limited the effectiveness of this reform.

In light of Friedman's permanent income hypothesis (1957) and the theory of optimal saving decisions, the following recommendations are proposed:

- Reducing administrative fees in AFAP funds – this would improve return rates for savers and increase investment efficiency.
- Enhancing transparency in investment decisions – reducing information asymmetry would positively influence long-term saving decisions.
- Considering a mandatory minimum return for capital-funded pension funds

this would reduce systemic risk and enhance system stability within the OLG model.

5.3 Benefit Adequacy and Income Redistribution

One of the fundamental principles of welfare economics is the need to ensure benefit adequacy while maintaining fiscal balance. The current structure of Uruguay's pension system does not sufficiently protect individuals with irregular career paths.

Therefore, the following recommendations are proposed:

- Introducing a guaranteed minimum pension, which would improve income redistribution in line with welfare economics theory.
- Incorporating new forms of employment into the contribution system, minimizing the negative effects of labor market changes and protecting future retirees from the risk of low benefits.
- Promoting additional retirement savings options – in light of Friedman's theory, tax incentives and encouragement for voluntary savings could help reduce pressure on the public system.

5.4 Administrative Reforms and Modernization of System Management

Pension economics theories emphasize the importance of efficient system management. In this context, the following recommendations are proposed:

- Digitizing the pension system – automating processes and improving access to information would enhance system transparency.
- Increasing database integration between pension institutions – this could reduce the risk of administrative errors and improve the efficiency contribution processes.
- Promoting public education on retirement savings – in line with behavioral economics, this could lead to more informed pension decisions.

6. Conclusions

Uruguay's pension system has undergone significant reforms; however, an analysis in the light of pension economics theory indicates that there is still room for further improvements. Linking the system to the OLG model, life-cycle theory, and welfare economics allows for identifying specific solutions that could enhance financial stability, efficiency, and benefit adequacy.

Reforms should consider both market mechanisms and the social aspects of the system, ensuring sustainable and lasting solutions for future generations.

A major concern, however, is the proposal expressed in the October 2024

referendum to lower the retirement age to 60 years and link minimum pensions to the minimum wage. While this proposal has social justification and could improve the quality of life for older individuals, its economic consequences require thorough analysis.

From the perspective of pension economics theory, such a change could weaken the system's stability and lead to the need for further reforms in the coming years. The key challenge for Uruguay will be to balance benefit adequacy with public financial stability to avoid a fiscal crisis, which in the long term could further deteriorate the situation of future retirees.

References:

Barr, N. 2013. The pension system in the welfare state: Theory and empirical evidence. Oxford: Oxford University Press.

Barr, N., Diamond, P. 2008. Reforming pensions: Principles and policy choices. Oxford: Oxford University Press.

Banco de Previsión Social. 2023. Informe sobre la reforma del sistema previsional en Uruguay. Montevideo: Banco de Previsión Social.

Bankier. 2024. Urugwaj obniży wiek emerytalny? Referendum i "najnudniejsze wybory roku". Bankier.pl. Retrieved from https://www.bankier.pl/wiadomosc/Urugwaj-obnizy-wiek-emerytalny-Referendum-i-najnudniejsze-wybory-roku-8835353.html.

Blanchard, O. 1985. Debts, deficits, and finite horizons. Journal of Political Economy, 93(2), 223-247.

Cristea, M., Thalassinos, E. 2016. Private pension plans : an important component of the financial market. International Journal of Economics & Business Administration, 4(1), 110-115.

Diamond, P. 1965. National debt in a neoclassical growth model. American Economic Review, 55(5), 1126-1150.

Feldstein, M. 1974. Social security, induced retirement, and aggregate capital accumulation. Journal of Political Economy, 82(5), 905-926.

Friedman, M. 1957. A theory of the consumption function. Princeton, N.J., Princeton University Press.

Financial Times. 2024. Vote on lowering pension age to 60 jangles nerves in Uruguay. Financial Times. https://www.ft.com/content/dd4621a9-ba9c-47a6-9779-363c111b2bfb.

International Monetary Fund. 2023. Uruguay: 2023 Article IV consultation-press release. Staff report. https://www.imf.org/-/media/Files/Publications/CR/2023/English/1URYEA2023001.ashx.

Ley N° 20.130. 2023. Reforma del sistema previsional. República Oriental del Uruguay.

Lockton Global News. 2023. Uruguay passes sweeping pension reforms with the creation of a common pension system. Retrieved from https://globalnews.lockton.com/uruguay-passes-sweeping-pension-reforms-with-the-creation-of-a-common-pension-system.

Ministerio de Economía y Finanzas de Uruguay. 2023. Impacto económico de la reforma hacia un sistema previsional común. https://www.gub.uy/ministerio-economia-finanzas/comunicacion/publicaciones/exposicion-motivos-rc-2023/6-reforma-seguridad-social/62-impacto.

Ministerio de Trabajo y Seguridad Social. 2024. Reformas al sistema previsional uruguayo.

Montevideo: Ministerio de Trabajo y Seguridad Social.
Modigliani, F., Brumberg, R. 1954. Utility analysis and the consumption function: An interpretation of cross-section data. In: K. Kurihara (Ed.), Post-Keynesian economics (pp. 388-436). New Brunswick, N.J., Rutgers University Press.
Organisation for Economic Co-operation and Development. 2018. Pensions at a glance. http://www.oecd.org/pensions.
Population Pyramid. 2024. Uruguay population data 2024. https://www.populationpyramid.net.
Population Today. 2024. Uruguay: Population statistics and forecasts. https://www.populationtoday.org.
Saldain, R. 2008a. Historia de la seguridad social en Uruguay. Montevideo: Fundación de Cultura Universitaria.
Saldain, R. 2008b. Uruguay: A mixed reform. In: S.J. Kay, T. Sinha (Eds.), Lessons from pension reform in the Americas (pp. 359-378). Oxford: Oxford University Press.
Saldain, R. 2020. Reforma de seguridad social en Uruguay: Evaluación y desafíos. Montevideo: Fundación de Cultura Universitaria.
Samuelson, P. 1958. An exact consumption-loan model of interest with or without the social contrivance of money. Journal of Political Economy, 66(6), 467-482.
Social Security Programs Throughout the World: The Americas. 2019. Uruguay. Washington, D.C. U.S. Social Security Administration.
Statistics Times. 2024. Uruguay: Demographics, economy, and politics. https://www.statisticstimes.com.
Thalassinos, E., Cristea, M., Noja, G.G. 2019. Measuring active ageing within the European Union: Implications on economic development. Equilibrium. Quarterly Journal of Economics and Economic Policy, 14(4), 591-609.
Thaler, R.H., Sunstein, C.R. 2008. Nudge: Improving decisions about health, wealth, and happiness. New Haven, C.T., Yale University Press.
Weber, W., Chiller, J., House, H. 2016. Corporate social responsibility and stakeholders. International Journal of Business and Economics, 32(4), 278-301.
Worldometer. 2024. Uruguay population 2024. https://www.worldometers.info.
Yaari, M.E. 1965. Uncertain lifetime, life insurance, and the theory of the consumer. Review of Economic Studies, 32(2), 137-150. https://doi.org/10.2307/2296058.