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COMPARATIVE ANALYSIS OF PENSION SYSTEMS IN COSTA RICA, NICARAGUA AND PANAMA

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This paper presents a comparative analysis of pension systems in Costa Rica, Nicaragua, and Panama, examining their efficiency and adequacy. These countries, despite sharing geographic and socio-economic similarities, exhibit distinct approaches to retirement systems. The study analyzes the structure, financing mechanisms, benefit calculation methods, and demographic challenges each system faces. Key indicators such as retirement age, replacement rate, and administrative efficiency are compared to assess the level of social security provided to retirees.

Methodologically, this research is based on a comparative study of macroeconomic and demographic factors, using data from governmental reports, international organizations, and academic studies. The analysis focuses on evaluating pension systems in terms of long-term sustainability and benefit adequacy in light of demographic aging and financial pressures.

The study finds significant differences in retirement ages, benefit structures, and the role of employer contributions. Costa Rica and Panama have more complex systems with higher retirement ages and structured pension schemes, while Nicaragua operates a simpler system with lower contribution levels and earlier retirement. These findings highlight that although Nicaragua's system is administratively simpler, it offers lower levels of social security for retirees compared to Costa Rica and Panama.

The study concludes with recommendations for potential reforms aimed at enhancing the efficiency and adequacy of these systems, especially in Nicaragua, which faces significant challenges due to demographic trends and economic constraints.

Keywords: social security, pension systems, Costa Rica, Nicaragua, Panama

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1. INTRODUCTION

Pension systems play a key role in ensuring the social and economic stability of countries, particularly in the context of aging populations. This article presents a comparative analysis of the pension systems in Costa Rica, Nicaragua, and Panama. The selection of these three countries is justified by their shared location in Central America and common demographic and socio-economic characteristics, making them interesting subjects for comparison. Furthermore, the pension systems in these countries have not been widely discussed in recent international reports, such as the Mercer CFA Institute Global Pension Index 2023, emphasizing the need for this study (Mercer CFA Institute, 2023).

The objective of this study is to evaluate the efficiency and adequacy of the pension systems in Costa Rica, Nicaragua, and Panama. The analysis examines the structure of the systems, financing mechanisms, benefit levels, and demographic challenges each country faces. In particular, the study seeks to answer whether there are significant differences between the pension systems of these three countries that have a real impact on the level of social security provided to their citizens.

Hypothesis

The research hypothesis is: "The pension system in Nicaragua, compared to the more advanced systems in Costa Rica and Panama, is characterized by a simpler structure and lower levels of adequacy and social security, which stem from differences in the socio-economic development levels of these countries". The validity of this hypothesis is based on the availability of data on the efficiency and adequacy of the pension systems in these countries. The efficiency of a pension system can be measured by indicators such as the replacement rate, the system's financial stability, and its ability to maintain benefit payouts over the long term. As noted by Jeremy Gold in *Frontiers in Pension Finance*, pension system efficiency is crucial for ensuring financial stability and the long-term solvency (Gold, 2016). The adequacy of a pension system refers to whether the system provides sufficient funds for retirement, considering the cost of living and social needs of retirees. Peter Diamond, in his work "Reforming Pensions: Principles and Policy Choices", emphasizes that the adequacy of pension benefits is a fundamental aspect of pension system evaluation, which directly affects retirees' quality of life (Diamond, 2002).

Available reports, such as the Mercer CFA Institute Global Pension Index 2023, provide some data on global pension systems. However, detailed information about Costa Rica, Nicaragua, and Panama remains limited. Therefore, this hypothesis aims to verify whether differences in structure, funding, and pension policies lead to significant differences in the level of social security for retirees in these countries. Further, more detailed research and access to local data sources will be crucial for a comprehensive verification of this hypothesis.

2. LITERATURE REVIEW

Previous research on pension systems in Central America has primarily focused on larger and more developed countries in the region, such as Mexico. For example, an OECD report provides an in-depth analysis of the Mexican pension system, assessing its alignment with OECD best practices and international examples to propose recommendations for its improvement (OECD, 2020).

Other studies, such as those by Dion (2009) and Marier and Mayer (2007), focus on the political and economic aspects of pension reforms in Mexico. Dion analyzes the influence of globalization and democracy on social systems in Mexico, while Marier and Mayer examine how pension reforms can be perceived as social justice initiatives.

No significant studies have been found concerning the pension systems of Costa Rica, Nicaragua, and Panama. This lack of literature underscores the need for a detailed comparative analysis of these systems. Economic and social theories on pension systems suggest that effective systems should be sustainably funded, providing adequate benefits with minimal risk of deficits (Diamond, 2002).

3. METHODOLOGY

The study utilized data from government reports, publications by international organizations, and academic research. A comparative analysis of the pension systems in Costa Rica, Nicaragua, and Panama required the use of indicators such as retirement age, replacement rate, financing mechanisms, and administrative efficiency of the pension systems. Additionally, data on contribution structures, benefit calculations, and demographic challenges in each country were considered (OECD, 2020).

As part of the study's methodology, a detailed review of the historical development of pension systems in the studied countries was conducted. Key reforms and changes in the pension systems implemented over the years were analyzed. Understanding the historical context allows for a better assessment of the current state of pension systems and the identification of major factors influencing their functioning (Diamond, 2002). An initial comparative analysis of macroeconomic and demographic components was conducted, including GDP growth rates, population demographics, unemployment rates, and inflation levels. Analyzing these indicators is essential for assessing the financial stability of pension systems and

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their capacity to sustain long-term pension obligations in these countries (Mercer CFA Institute, 2023).

The comparative analysis was based on the following key criteria:

- Retirement Age: The statutory retirement age and the average actual retirement age were examined.
- Replacement Rate: The percentage of the last salary that pension benefits represent was analyzed.
- Financing Mechanisms: The sources of pension system funding, including contributions from employees, employers, and the state, were assessed.
- Administrative Efficiency: The efficiency of managing pension systems, including administrative costs and the effectiveness of benefit payments, was evaluated.

Together, these elements provide a comprehensive view of the functioning of the pension systems in Costa Rica, Nicaragua, and Panama, allowing for an accurate comparison of their efficiency and adequacy and identifying areas in need of reform.

4. COMPARATIVE ANALYSIS

4.1. Macroeconomic and Demographic Components

A comparative analysis of the pension systems in Costa Rica, Nicaragua, and Panama requires an understanding of key macroeconomic and demographic indicators that affect the stability and functioning of these systems. Table 1 presents the basic economic and demographic indicators for these three countries.

Discussion

GDP per capita: Panama has the highest GDP per capita ($15,575), suggesting a higher level of wealth compared to Costa Rica ($12,078) and especially Nicaragua ($2,251). A higher GDP may indicate greater capacity to fund the pension system.

GDP growth rate: The highest GDP growth rate was recorded in Nicaragua (3.5%), which may indicate more dynamic economic development despite a lower GDP per capita. Costa Rica and Panama show similar GDP growth rates at 2.1% and 3.0%, respectively.

Unemployment rate: Nicaragua has the lowest unemployment rate (6.2%), while Costa Rica and Panama have higher rates, at 12.4% and 10.3%, respectively. High unemployment in Costa Rica and Panama may strain the pension system by reducing the number of contributors.

Inflation: Nicaragua has the highest inflation rate (6.5%), which may affect the real value of pension benefits. Costa Rica and Panama have relatively low inflation rates, at 2.4% and 1.6%, respectively.

Table 1. Basic Economic and Demographic Indicators of the Studied Countries (2022)

Indicator	Costa Rica	Nicaragua	Panama
GDP per capita (USD)	12,078	2,251	15,575
GDP growth rate (%)	2.1	3.5	3.0
Unemployment rate (%)	12.4	6.2	10.3
Inflation rate (%)	2.4	6.5	1.6
Population (millions)	5.1	6.7	4.4
Average life expectancy	80.0	75.2	78.7
Aging index (%)[2]	11.4	5.6	10.8

Source: World Bank. GDP per capita (current US$). Available at: https://data.worldbank.org/indicator/NY.GDP.PCAP.CD, World Bank. GDP growth (annual %). Available at: https://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG, International Labour Organization. Unemployment rate. Available at: https://ilostat.ilo.org/data/, International Monetary Fund. World Economic Outlook Database. Available at: https://www.imf.org/en/Publications/WEO/weo-database/2023/April, United Nations. World Population Prospects. Available at: https://population.un.org/wpp/, World Health Organization. Life expectancy at birth. Available at: https://www.who.int/data/gho/data/indicators/indicator-details/GHO/life-expectancy-at-birth-(years), United Nations. Ageing Index. Available at: https://population.un.org/wpp/Download/Standard/Population/.

Population: Nicaragua has the largest population (6.7 million), which may impose a greater burden on the pension system compared to Costa Rica (5.1 million) and Panama (4.4 million).

Average life expectancy: Costa Rica has the highest life expectancy (80.0 years), which may lead to a longer period of pension payments. Panama and Costa Rica have similar life expectancies, at 78.7 and 80.0 years, respectively.

Aging index: Costa Rica has the highest aging index (11.4%), indicating a higher proportion of elderly individuals in the population who may require pension support. Nicaragua has the lowest aging index (5.6%), while Panama's index is close to Costa Rica's (10.8%).

The analysis of these indicators provides context for assessing the performance and challenges facing the pension systems in these three countries. It allows for a more detailed comparison of the efficiency and adequacy of these systems and the identification of areas in need of reform.

[2] The aging index indicates the proportion of elderly individuals (typically aged 65 and over) in the population compared to young individuals (typically under 15 years of age). It is expressed as the ratio of the number of elderly people to the number of young people in a given population.

4.2. Description of Pension Systems (as of May 1, 2024)

Costa Rica

In Costa Rica, there are two main pension schemes (Caja Costarricense de Seguro Social CCSS, 2023; Ministerio de Trabajo y Seguridad Social de Costa Rica, 2023) that differ in terms of coverage, contribution structures, and types of benefits: the Disability, Old Age, and Death Insurance System (*Régimen de Invalidez, Vejez y Muerte*, IVM) and the Mandatory Individual Retirement Accounts (*Cuentas Individuales de Jubilación Obligatorias*, CIJO). In addition, Costa Rica offers Voluntary Savings Programs (*Programas de Ahorro Voluntario*, PAV).

The *Régimen de Invalidez, Vejez y Muerte* is a traditional pay-as-you-go system that covers most working Costa Ricans, including employees in the private and public sectors, self-employed individuals, managers and professionals, as well as temporary and short-term workers. The total contribution rate for employees is currently 11.16% (La República, 2019), with employers contributing 5.42%, employees 4.17%, and the state 1.57%. Contributions to IVM are made based on the minimum wage, which is 358,329.60 CRC, with no upper salary limit for pension contributions. Contributions for self-employed individuals are mandatory and calculated based on their declared income. These contributions consist of two parts: pension contributions (IVM) and health insurance contributions (*Seguro de Salud*). Self-employed individuals pay progressively from 6.72% to 18.78% of their declared income toward IVM contributions, with the minimum monthly salary base being 309,143 CRC.

The retirement age is 65 for both genders with a minimum of 300 contributions for men, without an early retirement option, and for women with the option to retire early at 63, requiring a minimum of 405 contributions. Pensions are calculated based on the best 25 years of wages throughout the individual’s career. The scheme provides the following benefits:

– pensión por vejez: A retirement pension for individuals who have reached the required retirement age and have met the contribution requirements. The pension is calculated as 52.5% of the average wage for the best 25 years, plus 1% for each additional year of contributions beyond 300 monthly contributions (La Teja, 2024; Telediario Costa Rica, 2024). Pension benefits amount to approximately 54% of the last salary (OECD, 2023a; OECD, 2023b). The minimum pension is 136,865 CRC per month. The scheme also provides a 13th pension paid in December (*aguinaldo*). A one-time payment is available for individuals who do not qualify for a regular pension due to insufficient contributions;
– pensión por invalidez: A benefit for individuals who have become fully disabled due to health reasons not related to workplace accidents;
– pensión por muerte: A benefit for the family of a deceased individual who was insured under the IVM system or receiving a pension.

In the *Cuentas Individuales de Jubilación Obligatorias* scheme, participation is mandatory for all formal employees in Costa Rica. Contributions are

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automatically deducted from the employee's salary and transferred to an individual retirement account. Employers are responsible for deducting contributions from employees' salaries and forwarding these funds to the appropriate pension management institutions (*Operadoras de Pensiones*). In 2024 (Superintendencia de Pensiones (SUPEN), 2024), the contribution rate is 4.25%, with employees contributing 1% and employers 3.25%. Pension benefits are paid upon reaching the age of 65. Beneficiaries can choose between a lump sum payment of the accumulated funds or regular payments in the form of an annuity, paid for life or over a specified period.

The system also offers additional voluntary retirement savings options, such as *Programas de Ahorro Voluntario* (PAV), which allow workers to accumulate additional retirement funds outside the official systems. These are voluntary savings programs for workers who want to save extra for retirement. Contributions are made voluntarily by participants without employer involvement. PAVs are managed by financial institutions, often the same ones that manage CIJOs, but with greater flexibility in investment strategies.

Both capitalized schemes are regulated and supervised by the Pension Supervision Authority (*Superintendencia de Pensiones*, SUPEN), ensuring compliance with strict requirements for transparency, security, and profitability of pension products.

Nicaragua

The Nicaraguan pension system consists of a single pillar called *Régimen de Invalidez, Vejez y Muerte* (IVM) (Social Security Administration (SSA), 2020; Morales, 1980), which translates to the "Disability, Old Age, and Death Program". It is a universal social security system administered by the Nicaraguan Institute of Social Security (*Instituto Nicaragüense de Seguridad Social*, INSS). This system covers mandatory participation for employees, including full-time workers, farmers benefiting from agrarian reforms, members of professional associations, certain clergy members, and cooperative members. Voluntary participation is available for the self-employed, individuals previously covered by mandatory insurance, some clergy members, Nicaraguan citizens working in diplomatic missions or for international organizations in Nicaragua, and family members of insured workers. Seasonal agricultural workers are not covered by the system (INSS, 2023a).

Employees of the Ministry of Interior, including firefighters, police officers, and correctional staff, as well as military personnel, are covered by special social security systems.

Pension contributions are set at 7% of employees' monthly earnings (International Social Security Association (ISSA), 2023; World Bank, 2023c; PwC, 2023; SSA, 2020), while employers with more than 50 employees pay 22.5% of wages, and those with fewer than 50 employees pay 21.5%. The minimum salary used to calculate contributions ranges from 4,176.49 córdobas in the agricultural sector to 9,346.59 córdobas in the construction, finance, and insurance sectors. There is no maximum

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salary limit for contributions. Self-employed individuals pay 14% of their declared monthly income, while clergy pay 11.6%. The minimum salary used to calculate contributions for the self-employed is the statutory monthly minimum wage for agricultural workers, which is 4,176.49 córdobas. These contributions also fund family benefits (INSS, 2023b).

The standard pension (*Pensión de vejez*) is available for individuals who have reached the age of 60 and have at least 750 weeks of contributions. Pension benefits amount to approximately 50% of the last salary (OECD, 2023c). Individuals who entered the system after the age of 45 must contribute for half the period between their enrollment and retirement age, with a minimum required contribution period of 250 weeks. Miners and those in physically demanding jobs can retire at the age of 55, provided they have at least 15 years of contributions. Teachers can retire at the age of 55 with at least 1,500 weeks of contributions for men or 750 weeks for women. A partial pension is available for individuals aged 60 who have accumulated at least 250 weeks but fewer than 750 weeks of contributions. Deferred pensions can be paid until the age of 70 (INSS, 2023c).

The old-age pension (*Pensión de vejez*) (SSA – Office of the Chief Actuary, 2023; SSA, 2020; SSA, 2023) is granted to individuals who are 60 years old and have at least 750 weeks of contributions. The benefit amount is 20% of the average monthly income from the last 375 weeks of contributions, plus 1% for each additional 52 weeks of contributions beyond 150 weeks. The minimum pension equals the monthly minimum wage, which ranges from 4,062.79 córdobas in the agricultural sector to 9,346.59 córdobas in the construction, finance, and insurance sectors. Partial pensions are available for individuals with a contribution period between 250 and 749 weeks. The benefit amount depends on the number of contribution weeks and ranges from 1,910 to 3,656 córdobas per month. Deferred pensions allow an increase of 1% for each additional 52 weeks of contributions after reaching the age of 60, up to a maximum of 10%. The maximum monthly pension is 70% of the average monthly earnings from the last 375 weeks of contributions. Additionally, individuals requiring constant care may receive a 20% supplement to their old-age pension (INSS, 2023d).

The pension system in Nicaragua is supervised and managed by the Nicaraguan Institute of Social Security (*Instituto Nicaragüense de Seguridad Social*, INSS) (INSS, 2023e).

Panama

The Panamanian pension system consists of two programs (Caja de Seguro Social (CSS), 2023; US Social Security Administration (US SSA), 2020): *Régimen de Vejez, Invalidez y Muerte* (VIM), and *Sistema Mixto*. Participation in these programs depends on a person's date of birth and employment status. For individuals older than 35 years as of January 1, 2006, the *Régimen de Vejez, Invalidez y Muerte* (VIM) applies. This program includes individuals who were already insured under social security before that date. It covers public and private sector

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employees as well as self-employed individuals. Meanwhile, the *Sistema Mixto* is the default scheme for individuals who were 35 years old or younger as of January 1, 2006, and for those who began work after that date. For individuals older than 35 years on January 1, 2006, participation in the *Sistema Mixto* was voluntary. Participation in this program entails dividing contributions between traditional social security (VIM) and individual retirement accounts.

Public and private sector employees, as well as self-employed individuals insured before January 1, 2006, who were older than 35 years, are covered by the *Régimen de Vejez, Invalidez y Muerte* (VIM). Additionally, it covers public and private sector employees who were insured, were younger than 35 years, or began working between January 1, 2006, and December 31, 2007, and did not opt into the mixed system of social insurance and mandatory individual accounts. This also applies to those who started working during this period and chose not to participate in the mixed system. The total contribution rate is 13.5% of wages, with employees contributing 9.25% and employers contributing 4.25% of monthly earnings. There is no maximum salary limit for pension contributions. The minimum retirement age is 62 years for men and 57 years for women, with at least 240 months of contributions. For seasonal agricultural and construction workers, the required contribution period is 120 months, while self-employed individuals do not have a contribution period requirement. Self-employed individuals pay 13.5% of their declared income (SSA, 2019).

Under the IVM pension system, old-age pensions (*Pensión por Vejez*) are calculated based on the average earnings from the best 10 years of work. The pension amounts to 60% of the average monthly earnings during those years, plus an additional 1.25% of the average monthly earnings for each year of contributions beyond 240 months. The minimum monthly pension is 255 balboas, while the maximum monthly pension under the social insurance-only system is 1,500 balboas. The pension can increase to 2,000 balboas if the insured person has at least 25 years of contributions and average monthly earnings of at least 2,000 balboas in the last 15 years of contributions. The maximum pension can reach 2,500 balboas with at least 30 years of contributions and average monthly earnings of at least 2,500 balboas in the best 20 years of contributions (SSA, 2019).

For seasonal agricultural and construction workers, the pension is calculated as 60% of the average monthly earnings from the best 10 years, multiplied by the number of contribution months, and divided by 180. The maximum annual earnings used to calculate benefits for these workers is 3,500 balboas. It is important to note that the minimum pension does not apply to seasonal agricultural and construction workers (OECD, 2023).

The *Sistema Mixto* is intended for public and private sector employees who were insured and aged 35 or younger on January 1, 2006, and opted to participate in the mixed system by December 31, 2007. It also applies to public and private sector employees who started working between January 1, 2006, and December

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31, 2007, and chose to participate in the mixed system, as well as those who began working after December 31, 2007. The system excludes self-employed individuals, although voluntary insurance is available for those not covered by mandatory insurance, including employees of international organizations and diplomatic missions working in Panama. Self-employed individuals who were 35 or younger as of January 1, 2007, and earned more than 9,600 balboas annually, are covered only by mandatory individual accounts (SSA, 2019).

Under the Panamanian pension system, which includes social insurance and mandatory individual accounts (*Sistema Mixto*), contributions are divided as follows: employees pay 9.25% of their monthly earnings into social insurance (*Régimen de Vejez, Invalidez y Muerte*, VIM) up to 500 balboas. Earnings above 500 balboas are subject to the same contribution rate for individual retirement accounts. Additionally, 7.25% of the 13th salary annually is allocated as follows: up to 500 balboas to VIM, and any amount exceeding that goes to the individual account. Employers contribute 4.25% of monthly earnings to VIM up to 500 balboas, and earnings above that amount are contributed to the individual account. There is no maximum salary limit for calculating contributions. Of the total contributions to the individual account, 10% goes directly to the account, 2.5% to a solidarity fund, 0.93% to collective insurance for old-age risk, and 0.07% to collective insurance for disability risk. For the mandatory individual account (for high-income self-employed individuals), the contribution rate is 13.5% of 52% of gross annual income. There is no maximum earnings limit for contribution calculations. The retirement age is the same as in the VIM system (ISSA, 2023).

Old-age pensions (*Pensión por Vejez*) are calculated by dividing the balance of the insured's individual account by the actuarial value associated with life expectancy and paid as scheduled withdrawals. If the retiree lives longer than the estimated life expectancy and the individual account balance is exhausted, collective old-age insurance supplements the account balance. Additionally, a supplementary benefit is paid as a monthly benefit based on the amount the insured contributed from monthly earnings exceeding 500 balboas before switching to the mixed system (OECD, 2023).

Besides the main pension system, Panama operates a program called *Pensión 120 a los 65*, intended for Panamanian citizens aged 65 and older who do not receive other pension or disability benefits. This program is fully funded by the government and provides a benefit of 120 balboas per month. It is part of the Conditional Cash Transfer Program (*Programa de Transferencias Monetarias Condicionadas*, PTMC), managed by the Ministry of Social Development (*Ministerio de Desarrollo Social*, MIDES) (MIDES, 2024; Panamá en Minutos, 2024; Telemetro, 2024).

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5. RESULTS AND DISCUSSION

5.1. Comparative Analysis of Pension Systems

The comparison of the pension systems in Costa Rica, Nicaragua, and Panama reveals both similarities and differences in key areas. The analysis is based on the main criteria: retirement age, replacement rate, financing mechanisms, and administrative efficiency. The comparison of the pension systems is presented in table 2.

Table 2. Comparison of Pension Systems in the Studied Countries based on data from 2024

Criteria	Costa Rica	Nicaragua	Panama
Retirement Age	65 (both genders)	60 (both genders)	62 (men), 57 (women)
Replacement Rate	54% of the last salary	50% of the last salary	60% of average monthly earnings from the best 10 years + 1.25% for each additional year over 240 months
Financing Mechanisms	11.16% total (employers 5.42%, employees 4.17%, state 1.57%)	7% for employees; employers: 22.5% (>50 employees), 21.5% (<50 employees)	13.5% total (employee 9.25%, employer 4.25%)
Administrative Efficiency	Managed by SUPEN with two main schemes (IVM and CIJO)	Single-pillar system managed by INSS	Divided into two programs (VIM and Sistema Mixto) with different benefit mechanisms

Source: own elaboration.

6. DISCUSSION

Retirement Age: Costa Rica and Panama have a higher statutory retirement age compared to Nicaragua. In Costa Rica, the retirement age is 65, while in Panama it is 62 for men and 57 for women. Nicaragua stands out with the lowest retirement age, set at 60 for both genders. The higher retirement age in Costa Rica and Panama may reduce the burden on the system by shortening the period of pension benefit payouts.

Replacement Rate: Costa Rica and Panama have more complex pension benefit calculation systems that consider the best years of earnings. In Costa Rica, benefits amount to approximately 54% of the last salary, while in Panama, they are 60% based on the best 10 years, plus an additional 1.25% for each extra year of contributions beyond 240 months. Nicaragua has a simpler system, where benefits amount to approximately 50% of the last salary.

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Financing Mechanisms: The systems in Costa Rica and Panama have similar contribution structures, involving employees, employers, and the state. Contributions in Costa Rica amount to 11.16%, while in Panama, they are 13.5%. Nicaragua stands out with higher employer contributions, especially for companies employing more than 50 workers, which may affect employment costs and the labor market.

Administrative Efficiency: The systems in Costa Rica and Panama are more complex, with multiple schemes and programs, which may influence administrative costs and management efficiency. Nicaragua has a simpler, single-pillar system, which may result in lower administrative costs but also less flexibility and adaptability to changing demographic and economic conditions.

6.1. Discussion

The comparison of pension systems in Costa Rica, Nicaragua, and Panama shows that while there are similarities, such as contribution-based structures and challenges related to population aging, there are also significant differences. Costa Rica and Panama have more complex systems with a higher retirement age and more intricate benefit calculation mechanisms, whereas Nicaragua has a simpler system with lower contribution requirements and a lower retirement age. These differences impact the efficiency and adequacy of the pension systems, as well as the level of social security provided to retirees in each country.

6.2. Recommendations

Simplification of Pension Systems in Countries with Lower Socio-Economic Development: The pension system in Nicaragua, due to its simplicity, generates lower administrative costs and may be easier to manage in countries with limited financial and institutional resources. However, to ensure better adequacy of benefits, mechanisms adjusting pensions to inflation and the social needs of retirees should be considered.

Adjusting the Retirement Age to Demographic Changes: The higher retirement age in Costa Rica and Panama can serve as an example for countries with increasing life expectancy. Gradually raising the retirement age in systems like Nicaragua's could contribute to improving the financial stability of the pension system, while also considering protective measures for workers engaged in physically demanding jobs.

Balancing Simplicity and Complexity in Pension Systems: Pension systems in Costa Rica and Panama, though more complex, offer greater flexibility to tailor benefits to the individual needs of retirees. Countries facing demographic transitions should strive to strike a balance between flexibility and transparency in their systems to better address challenges associated with aging populations.

Strengthening the Funded Components of Pension Systems: Incorporating mandatory or voluntary individual retirement accounts, as seen in Panama's system, could be an effective strategy for countries under demographic pressures. Such mechanisms provide greater financial stability for the system, provided there is adequate oversight of institutions managing pension funds.

7. CONCLUSIONS

In summary, the comparative analysis of the pension systems in Costa Rica, Nicaragua, and Panama revealed significant differences in their structures and efficiency. These systems differ in terms of financing mechanisms, contribution rates, and benefit calculation methods, which affect the level of social security provided to citizens. Compared to Costa Rica and Panama, Nicaragua's pension system is structurally simpler, lacking a funded scheme and having a lower statutory retirement age. This may result in less administrative burden but also lower flexibility and benefits. Additionally, Nicaragua's high employer contributions may pose challenges for the labor market and the financial stability of the pension system. The research hypothesis that "The pension system in Nicaragua, compared to the more advanced systems in Costa Rica and Panama, is characterized by a simpler structure and lower levels of adequacy and social security, which stem from differences in the socio-economic development levels of these countries" has been confirmed. The analysis demonstrated significant differences in the structures of pension systems, financing mechanisms, and benefit calculation methods, which influence the level of social security provided for retirees in each of the studied countries.

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ANALIZA PORÓWNAWCZA SYSTEMÓW EMERYTALNYCH KOSTARYKI, NIKARAGUI I PANAMY

Streszczenie

W niniejszym artykule przedstawiono analizę porównawczą systemów emerytalnych Kostaryki, Nikaragui i Panamy, badając ich efektywność i adekwatność. Kraje te, mimo że charakteryzują się geograficznymi i społeczno-ekonomicznymi podobieństwami, wykazują odmienne podejścia do systemów emerytalnych. W badaniu zanalizowano strukturę, mechanizmy finansowania, metody obliczania świadczeń oraz wyzwania demograficzne, z którymi mierzą się poszczególne systemy. Kluczowe wskaźniki, takie jak wiek emerytalny, stopa zastąpienia oraz efektywność administracyjna, są porównywane w celu oceny poziomu zabezpieczenia socjalnego, jaki te systemy zapewniają emerytom.

Metodologicznie badanie opiera się na analizie porównawczej czynników makroekonomicznych i demograficznych, wykorzystując dane z raportów rządowych, organizacji międzynarodowych i badań akademickich. Analiza koncentruje się na ocenie systemów emerytalnych pod kątem ich długoterminowej stabilności i adekwatności świadczeń w świetle starzenia się społeczeństw i presji finansowych. Ujawnia ono znaczące różnice w wiekach emerytalnych, strukturach świadczeń oraz roli składek pracodawców. Kostaryka i Panama mają bardziej złożone systemy z wyższym wiekiem emerytalnym oraz ustrukturyzowanymi schematami emerytalnymi, podczas gdy Nikaragua operuje prostszym systemem z niższymi poziomami składek i wcześniejszym wiekiem emerytalnym. Wyniki wskazują, że system Nikaragui, mimo że administracyjnie prostszy, oferuje niższe zabezpieczenie socjalne dla emerytów w porównaniu z Kostaryką i Panamą.

Badanie kończy się rekomendacjami dotyczącymi potencjalnych reform w celu zwiększenia efektywności i adekwatności tych systemów, szczególnie dla Nikaragui, która stoi przed poważnymi wyzwaniami demograficznymi i ograniczeniami ekonomicznymi.

Słowa kluczowe: zabezpieczenie społeczne, systemy emerytalne, Kostaryka, Nikaragua, Panama

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