The Effects of Early Access to Pension on the Financial Performance of the Public Pension Fund in Zambia: The Case of the National Pensions Scheme Authority (NAPSA)

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ABSTRACT

This paper aims to investigate the effect of early access to pension on the financial performance of the public pension fund in Zambian: The case of the National Pensions Scheme Authority (NAPSA). The key financial indicators (KPIs) examined in this study are: revenue from investments, contributions, net assets, and active members. The study covered the years, 2021 and 2022, years before the change in pension policy, and the two years, 2023 and 2024 which are post the coming into force of early access to pension.

A desk research methodology was employed and secondary data were collected from the NAPSA's official website, and its audited financial statements for; 2021, 2022, 2023, and 2024. To obtain the econometric results, a Linear Regression Analysis (LRA) was used on the collected secondary data.

A comparison of the econometric results for the three periods; 2021-2022, 2022-2023, and 2023-2024, informs this paper to conclude that, relative to the four KPIs, early access to pension has a positive influence on the performance of the NAPSA, although not statistically significant. It was observed from the econometric results that for the periods, 2021-2022 and 2022-2023, with the exception of members' contribution, that for every Kwacha of pension withdrawal, there was an increase in revenue from investments, value of the net assets, and population of members. However, in the period of 2023-2024, the LRA results indicate that for every Kwacha of early pension withdrawal, all the KPIs had a negative growth. The weaknesses and limitations of the study arose from lack of the financial data for 2025, and the very small data set covering two years (2023-2024) post coming into effect of early access to pension. The study offers recommendations to the Zambian government on the need to, in the long term, reform the pensions law.

Keywords: Early Access to Pension; Investments Revenue; Net Assets; Members' Contributions; Active Members.

INTRODUCTION

Over two years have passed since the coming into force of the Pensions Scheme (Amendment) Act No. 1 of 2023, and during this period and in the current, early access to pension in Zambia continues to be a topical issue. Several studies have been undertaken on the subject of early access to pension by different researchers. The author's discussion on this subject was initially through the Doctoral of philosophy dissertation titled, "*The Impact of Partial Pension Withdrawal on the Performance of Micro Finance Zambia Limited*." This is a follow up paper discussing the effect of early access to pension, with a focus on the public pension sector.

The paper discusses the effect of early access to pension on the financial performance of the National Pensions Scheme Authority (NAPSA). The NAPSA is a public a defined contributions (DC) pension scheme into which both the employer and employee contribute an equal amount towards the employee's pension account. The NAPSA plays a critical role in the Zambian economy as it has a diverse investment portfolio which covers government securities, equities and term deposits. In 2023, the NAPSA reinvested a total 45 billion Zambian Kwacha (ZMW) equivalent to 1.730 billion United Stated dollars (USD), in various investments, broken down as follows: 34.4% in government bonds; 22.4% term deposits held with local commercial banks; 14.4% was

held in government treasury bills; real estate was at 10.5% with investment in infrastructure and equity in both public listed and private companies being 1.4% and 16.9% (National Pensions Scheme Authority [NAPSA], 2024).

In the same year of 2023, the NAPSA paid out a total various pension benefits to its members totalling ZMW11.726 billion equivalent to about USD451 million, and these payments benefited the Zambian economy by way of increased consumer demand for goods and services (National Pensions Scheme Authority [NAPSA], 2024). In the preceding year of 2022, the NAPSA had a total reinvested amount of ZMW26 billion (USD1 billion) and pensions payouts of ZMW5.95 billion (USD228.85 million) (National Pensions Scheme Authority [NAPSA], 2023b). The 2023 reinvested and pensions payout amounts translates to an increase of 173.07% and 197.07%, respectively on the 2021 figures. These huge capital outlay in diverse investment portfolio and pensions payouts entail that the financial health of the NAPSA is important to not not only ensuring that its members are guaranteed of their pension, as and when eligible to access it, but also to the Zambian economy in general. According to the National Pensions Scheme Authority [NAPSA] (2025), the year-to-year (2023 and 2024) growth of the NAPSA investments was about 27.8%, from ZMW70.5 billion to over ZMW90 billion.

According to Mazreku, Morina, and Curraj (2020) pension funds are created for the purpose of managing funds created from employees contributions during their working time, and are intended to provide income to members of the pension fund after their retirement. A pension fund is a specialised investment created to accumulate and manage funds contributed by individuals, employers or both, for the benefit of the members (Kokat Life, 2024). Kokat Life's position as to the management of the funds by professional fund managers is in consent with Mazreku at el. A pension fund is an institutional investor, which collects, accumulates and invests funds from contributors to provide future benefits to its members (Mazreku et al., 2020).

The objective of this paper is to investigate the effect of the early partial pension release on the financial performance of the NAPSA pension fund. This study involves the analysis of the financial performance of the NAPSA pre and post the coming into effect of the amended pensions law, which permitted contributors to the pension fund early partial access. While studies have been undertaken on the effect of early access to pension on the performance of pension funds in Latin America, Europe and the United States of America, no similar investigations have done in Zambia, to find out the effect of early partial access to pension on the performance of the NAPSA.

The paper is in six sections. Section two is the literature review, which discusses the overview of the types of pensions, and case studies of countries that have implemented the early access to pensions, and the effects therefrom. Section three is methodology, and data collection and analysis is section four. Section five is results and discussions and the paper closes with a conclusion.

LITERATURE REVIEW

An overview of existing research on types of pensions plans

There is a plethora of studies on types of pension funds being implemented in most countries. Generally, pension funds represent institutional investors, and are similar to insurance companies, except that for pension funds, the inflows of the funds are in the favour of the contributing members, and created on an economic continuum (Mazreku et al. (2020).

Pensions are managed by either a government pension fund manager or private pension fund manager. Primarily there are two types of pension plans; Defined contributions (DC) and Defined Benefits (DB) (Kokat Life, 2024). A DC is a pension plan involves individuals who contribute a fixed amount or percentage of their salaries to a pension fund, and their future payout amounts depends on the accumulated contributions and performance of the invested funds (Kokat Life, 2024). Kokat Life, contends that in contrast, a DB pensions plan is one in which retirees are paid a predetermined pension amount based on factors such as salary history and number of years of service, and the responsibility of managing the investments and ensuring that the promised benefits lie with the employer or the pension fund manager.

The Pensions Authority (2024) provides three pensions schemes that a person can use in planning their retirements: (1) an occupational pension plan, also known as company pensions plans, are setup by employers for their employees, and there is no obligation on an employer to set up an occupational scheme. The schemes are set up either under trust or statutory basis; (2) retirement annuity contracts, which is a personal pension, and this is a defined contribution plan whose ultimate benefits payable from the contract will depend on the level of contributions paid; and a personal retirement savings accounts, which is an agreement (contract) between an individual and an approved pension fund manager.

The Pensions Authority (2024) further argues that in a defined contribution plan (DC) values will be the accumulated amount paid into the scheme by a member or its employer, and it is mostly suitable for occupational pension scheme. The Pensions Authority further posits that in contrast to the DC, a defined benefits plan (DB), the value payable from the scheme is dependent on the standard basis of calculations, and contributions are made by the employer. The DC plan is employed in most countries as a compulsory pension scheme. In Albania, a mandatory social and health insurance contribution for the employee at the rate of 27.9% of gross monthly salary is contributed, with the employee contributing 11.2% and the employer the remaining 16.7% (Mazreku et al. (2020).

Mazreku further submits that in another Balkan state, North Macedonia, a pension scheme has been run on three pillars: the first pillar is a mandatory Pay-As-You-Go (PAYG) system in which the current contributions pay for current pension payouts, and this pension plan is based on the principle of general solidarity; the second is also a mandatory pension plan but fully based on funds contributed by members; and the third plan is a voluntary pension plan, like the second, it is also based on contributed funds. The characteristics of the first pillar point it to being a DB, and the second and third pillars, are DCs.

Previous studies on the impact of early access to pension on the performance of pension schemes

In Chile, just like other countries such as Australia, Brazil, Costa Rica, Iceland, Malaysia, Mexico, and Costa Rica, among others, in order to smoothen consumption and support of its citizen during and post the Covid-19 pandemic, passed a law allowing people to access 10% of their savings in twelve months with a maximum of USD5,664, and a minimum of USD 1,322 (Lorca, 2020). Findings from the study by Lorca (2020) on the performance of private pensions fund in Chile, post the early access to pension, indicated that individual savings accounts benefits reduced by an average of 7.3%. The new policy resulted in an average withdrawal of 22.92% and an average reduction in savings of USD2,623, and the reduction in savings increased income inadequacy in retirement and exacerbated pressure on the Chilean government supplements funded by taxes (Lorca, 2020).

In tandem with Lorca (2020), The FIAP (2021) in its investigation on the impact of early access to pension in Chile, argued that the main effect of allowing two withdrawals will be the drop in the pension amounts that the individual system will be able to payout to its members. It was also estimated that early access to pension would lead to a drop in the Chilean pension funds by about 18% (The FIAP, 2021).

The government of the Republic of Peru, in mitigating the Covid-19 effect proclaimed a public policy on pensions particularly the DC scheme, allowing for exemption of contributions in the month of March 2022 and additionally, early access to retirement funds to be made in six different withdrawals (Superintendencia, 2023). According to Superintendencia (2023), early access to retirement funds led to an increase in the number of active members with zero pension savings, from 845,000 in March 2020 to 2.4 million at the end of December 2022.

Further, The Superintendencia submits that, the huge unplanned cash requirements needed to meet pension withdrawals led to a rebalancing of investments, resulting in reduction in liquid instruments such as Peruvian government bonds, and consequently altering the composition of the portfolios managed by the pension fund managers. The positive side of the early access to pension in the context of the performance of the pension fund schemes in Peru was the increased local investments against foreign investments, for ease of access to required liquidity (The Superintendencia, 2023).

The other measures employed in obtaining of cash to cover for the early access to pension was through a loan obtained from the Peruvian Reserve Bank, collateralized by investments instruments from managed portfolios

(Superintendencia, 2023). Further, the World Bank (2019) in its study found that early access to pension led to lower replacement rates (RR) at retirement resulting in the reduction of the pension savings and invariably lower amounts of retirement income received.

Gaps in the literature review

While there have been many studies on the impact of the early access to pension on the performance of pension schemes, gaps still remain. The past investigations focused on either the performance of the individuals' pension accounts or the performance of pension funds in the context of its effect on the economies of the respective countries.

In Zambia, a study relative to early access to pension in the case of the NAPSA was undertaken by Buumba and Kawimbe (2023), and its focus was on the risks associated with; early withdrawal on the members, on the Zambian economy, and the decisions that may have motivated members to exercise their rights to access their pensions early. There are no studies undertaken to the effect of early access to pension on the financial performance in Zambia, and with specific reference to the NAPSA.

Since the enactment of the law permitting early access to pension in Zambia, almost to two years now, there is a need to undertake studies on the impact of the early access to pension on the financial performance of the NAPSA. Further, while the positive impacts of early access on members in the context of the individuals being able, among others, to have cash in their possession and pay off debts are well documented, there is need to evaluate the effect of this policy on the financial performance of the NAPSA.

METHODOLOGY

In this study, quantitative research method was used. Secondary data were collected from various sources to ensure that a comprehensive analysis on the financial performance of the NAPSA is undertaken. The data were collected from the NAPSA's quarterly reports and audited financial statements covering the four-year period – 2021, 2022, 2023, and 2024.

In addition to the financial data, the pension membership population for each of the three years was also collected from the NAPSA reports. The population size, and as argued by Mazreku et al. (2020), determines the level of pension contributions and is an important source of investments.

Table 1: Description of variables included in the study

Variable	Source
Financial performance	Pension fund financial statements
Non-financial performance	Pension fund reports
Early partial access to pension	Pension fund reports

Source: Author's data procession (2026)

To analyse the effect of early access to pension on the revenue from investments of the NAPSA, selected variables were defined and measured. Dependent variables were; revenue from investments, members' contributions, net assets, and numbers of active members. Early pension withdrawals were independent variables. Pension withdrawals for each year comprised of; normal retirement pensions, pension claims and withdrawals, and included early access to pension in 2023. Analysis of the data were in three parts; prior to the coming into force of the law – 2021 and 2023, 2022 – 2023, and 2023 - 2024 periods.

The objective of the analysis was to find out if there is a correlation between the financial performance of the NAPSA and the early access to pension by comparing the results from the analysed data for the period prior to early access to pension and the post the enactment of the law, which resulted into permitting early access to pension. The selected financial performance indicators in this study are; revenue from investments, members'

contributions, net assets, and numbers of active members. To examine the relationship between selected financial performance indicators and early pension withdrawals, an econometric model, multivariate regression, which models the relationship between one independent variable (predictor) and multiple dependent variables (responses). The early partial pension withdrawal is the single independent variable influencing multiple dependent variables (revenue from investments, members' contributions, net assets and number of active members). The model is as:

$$Y = \beta_0 + \beta_1 X + \epsilon$$

Where Y represents dependent variables (revenue from investments, members' contributions, net assets, and number of active members). X is the single independent variable (early pension withdrawals), β0 is the interceptor vector, with β1 being the coefficient vector for the independent variable, and ϵ is the error term vector. This formular has been employed to determine the:

i. p-Value, is the probability of determining if the null hypothesis is true. A small p-value infers a relationship between the independent variable and the dependent variable;

ii. Confidence Interval (CI), is a range of values the true coefficient is likely to fall, set at a confidence level of 95%. A CI value above or below zero indicates a more reliable effect; and

iii. Model Fit Indicators [Coefficient of Determination (R^2)], indicates how much of a variation in the dependent variable. In case of a small sample size, an Adjusted R^2 corrects R^2.

As the dataset in this study is extremely small (4 years), the coefficients for each dependent variable were also calculated using simple linear regression analysis (LRA). The simple linear regression model is:

$$Y = a + b\,x$$

Y represents the dependent variable, a is the intercept, with b being the slope and x the independent variable. No qualitative method was employed, and the quantitative method used allows for a detailed analysis and recommendations.

RESULTS AND DISCUSSION

According to Mazreku et al. (2020), performance of a pension fund is the profits that members receive after their contributions have been invested. To provide an understanding of the collected data before analyzing the same, we begin with a summary of the key variables from the financial statements for the three years – 2021, 2022, and 2023. The tabulated data below was obtained from the audited financial statements of the NAPSA for each of the three years.

Results

Financial analysis

Table 2: Financial variables (ZMW'000)

Independent variable	2021	2022	2023	2024
Pensions claims and withdrawals	1,352,815	5,951,031	10,352,132	727,174

Source: Author's data procession from the NAPSA audited financial statements (2026)

The pensions claims and withdrawals in Table 2 include normal pensions and other pension claims for the two years - 2021and 2022. In 2023 and 2024, the pensions claims and withdrawals include early access to pension withdrawals.

Table 3: Financial variables (ZMW'000)

Dependent variables	2021	2022	2023	2024
Revenue from investments	7,863,420	7,824,131	8,569,732	10,082,836
Net Assets	54,560,607	59,348,474	67,516,618	87,215,089
Contributions from Members	5,200,881	6,981,653	7,351,981	8,661,725

Source: Author's data procession from the NAPSA audited financial statements (2026)

Table 3 constitutes revenue from investments was generated in each of the four years from investments of members; contributions in different investments vehicles, including among others; government securities, fixed term deposits, shares in listed and unlisted corporations, housing and investment properties. It also contains net assets constituted the pension fund's total assets less to pensions obligations, and contributions from members were collections from members towards their respective pension accounts.

Table 4: Pension fund membership

Membership	2021	2022	2023	2024
Active members	885,824	965,548	1,040,000	1,103,648

Source: Author's data procession from the NAPSA's periodical reports (2026)

As argued by Mazreku et al. (2020), the members population drives the contributions and in turn the actuarial value of the pension fund. Table 4 constitutes active members' data which was also collected from the financial statements for each of the four years.

Results from econometric models

To determine whether there was a relationship between the normal pension withdrawals and the five selected KPIs, data for the two years prior to the year early access to pension was effected, was analysed. The results from the LRA are indicated in Table 5 below.

Table 5: Regression results for 2021 and 2022

Variables	Intercept (a)	Coefficient (b)
Revenue from investments (ZMW'000)	7,874,979	-0.0085
Members' contributions (ZMW'000)	4,676,970	0.3873
Net Assets (ZMW'000)	53,151,996	1.0412
Active members	862,369	0.0173**

Source: Author's calculations (2026)

The LRA results for the two years prior to the coming into effect of the law permitting early access to pension indicate that:

(a) revenue from investments with zero withdrawals of pension funds were expected to be ZMW7,874,979, and an increase in withdrawals of ZMW1.00 would result in a reduction in revenue from investments of ZMW0.0085;

(b) with zero pension withdrawals, the NAPSA was expected to receive members' contributions to the value of ZMW4,676,970, and for every ZMW1 withdrawn from the pension fund, contributions were to increase by ZMW0.3873;

(c) the net assets value at zero pensions withdrawals were envisaged to be ZMW53,151,996, with an increase in withdrawals of every ZMW1 giving rise to an elevation in net assets of ZMW1.0412; and

(d) active members with zero pension withdrawals were expected to be 862,369 and an increase of ZMW1 in pension withdrawals would raise the number of active members by 0.0173, which is 1.73%.

Based on the above results covering the first two-year period – 2021 and 2022, prior to the coming into force of the law permitting for early access to pension, the normal pension withdrawals had a positive effect on all the KPIs, with the exception of revenue from investments. It is observed from the model results that revenue from investments has a negative relationship with pension withdrawals, as for every ZMW1 increase in pension withdrawals resulted in a negative increase of ZMW0.0085 in revenue from investments.

Further, it is observed that of the three KPIs with positive relationships, the members' contributions and population of active members have very weak relationship with pension withdrawals, indicating that as withdrawals increase members' contributions and population of active members would slightly increase.

The results from the 2023 LRA are shown in Table 6 below.

Table 6: Regression results of variables for 2022 and 2023

Variables	**Intercept (a)**	**Coefficient (b)**
Revenue from investments (ZMW'000)	6,815,952	1.8559
Members' contributions (ZMW'000)	6,480,907	0.0841
Net Assets (ZMW'000)	48,303,765	1.8559
Active members	864,876	0.0169**

Source: Author's calculations (2026)

The 2022 and 2023 LRA results cover the period before early access pension (2022), and the year (2023) in which early access to partial pension came into effect. The LRA method requires a minimum of two data sets for the econometric analysis to be undertaken. There is an assumption that the 2022 financial data negatively impact the econometric analysis results. However, the impact was not expected to significantly change the econometric results.

The data analysis results indicated that:

(a) with zero early withdrawals, the expected revenue from investments was ZMW6,815,952, and for every ZMW1 increase in early pension withdrawal, revenue from investments was expected to increase by ZMW1.8559;

(b) members' contributions were expected to be ZMW6,480,907 when no early access to pension funds had been effected. An increase of ZMW1 in early pension withdrawals was expected to increase members' contributions by ZMW0.0841; at zero early partial pension withdrawals, net assets value was expected to be ZMW48,303,765 and an increase in early access to pension of ZMW1 would give rise to increase in the value of the net assets by ZMW1.8559; and

(c) at zero early partial pension withdrawals, the number of active members was expected to be 864,876, and with every ZMW1 increase to the early access to pension, the number of active members rise by 0.0169 percent (1.69%).

The 2024 LRA results are shown in Table 7 below.

Table 7: Regression results of variables for 2023 and 2024

Variables	**Intercept (a)**	**Coefficient (b)**
Revenue from investments (ZMW'000)	10,197,152	-0.1572
Members' contributions (ZMW'000)	8,760,677	-0.1361
Net Assets (ZMW'000)	88,703,326	-2.0416
Active members	1,108,456	-0.0066**

Source: Author's calculations (2026)

In 2024, early pension withdrawals reduced from over ZMW10.35 billion to about ZMW728 million (National Pensions Scheme Authority [NAPSA], 2025). This translates to a reduction exceeding 1,421% in early access to pension. A review of collected data in Tables 2, 3, and 4 indicate that in 2024, all the KPIs recorded positive growth of: Net assets, 28.92%; Revenue, 17.66%; Contributions, 17.82%; and Membership, 5.65%.

The 2023 and 2024 LRA data analysis indicate that:

(a) with zero early withdrawals, the expected revenue from investments was ZMW10.197 billion, and for every ZMW1 increase in early pension withdrawal, revenue from investments was expected to reduce by ZMW0.1572;

(b) contributions from members expected to be ZMW8.76 billion with no partial pension withdrawals. An increase of ZMW1 in early access to pension was expected to have a negative effect on members' contributions by ZMW0.1361;

(c) at zero early partial pension withdrawals, the value of net assets value was expected to be ZMW88.70 billion, and any increase in early access to pension of ZMW1 would result in a reduction in value of the net assets by ZMW2.04; and

(d) at zero early partial pension withdrawals, the number of active members was expected to be 1,108,456, and with every ZMW1 increase in early pension withdrawals, the number of active members would reduce a marginal 0.66%.

Table 8 below highlights a comparative analysis of the econometric results for the research period.

Table 8: Comparative analysis of the econometric results

	2021/2022	**2022/2023**	**2023/2024**
1. Revenue from investments			
Intercept	7,874,978	6,815,952	10,197152
Coefficient	-0.0085	0.1694	-0.1572
2. Members' contributions			
Intercept	4,676,970	6,480,907	8,760,677
Coefficient	0.3872	0.0841	-0.1361
3. Net assets			
Intercept	53,151,996	48,303,765	88,703,325
Coefficient	1.0412	1.8559	-2.0466
4. Active members			
Intercept	862,368	864,876	1,108,456
Coefficient	0.0173	0.0169	-0.0066

Source: Author's calculations (2026)

The results of a comparative analysis between the periods: 2021-2022 and 2022 -2023; and 2022-2023 and 2023-2024 is below.

a) Revenue from investments at zero withdrawals is estimated to decrease by 13.45% in the period, 2022-2023, when early access to pension was permitted. To the contrary, the coefficient for the same period indicates an increase of close to 2,100% on the 2021-2022 LRA results.

b) Contributions from members at zero withdrawals estimated to rise by 72.17% in the period early access to pension was permitted, and for every pension withdrawal of ZMW1, contributions from members in 2022-2023 period decreased to ZMW0.0841 from ZMW0.3872, translating to a negative change of 78.28%.

c) A comparative of the net assets values relative to withdrawals at zero value reduced by 9.12% from ZMW53,151,996 to ZMW48,303,765 for the period 2021-2022 and 2022-2023, respectively. The effect of a pension withdrawal of ZMW1 on the net assets value increased from ZMW1.0412 to ZMW1.8559, translating to a 78.25% increase.

d) With zero withdrawals in the period 2021-2022, members' population was estimated at 862,368. An escalation of 0.29% on the 2021-2022 period is observed during the period in which early access to pension was permitted. It was also observed that for each ZMW1 withdrawal, an increase of 2.3% is expected in the number of active members.

e) A comparison of revenue from investments for the two periods, 2022-2023 and 2023-2024 indicates that whilst revenue at zero withdrawals is estimated to increase by over 149%, an increase of ZMW1 in early access to pension would result in a loss of revenue to the value of ZMW0.1572.

f) Members' contributions are estimated to have grown in 2023-2024 by over 35% on 2022-2023 at zero early access to pension, and for every ZMW1 partial pension withdrawal would result in a negative gain of ZMW0.1361.

g) With zero early pension withdrawals, net assets are also observed to have a positive growth in 2023-2024 period of 183.64% on 2022-2023 performance. An early access to pension of ZMW1 is estimated to result in a reduction in net assets of ZMW2.0466.

h) Active members are estimated to increase to 1,108,456 in 2023-2024 period compared to 864,876 in 2022-2023. However, it was observed that for every ZMW1 early access to pension, there would be a reduction in members of about 0.66%.

The results for the p-value, Confidence Interval (CI) and Model Fit indicators (R^2), for the 4-year period are indicated in Table 9 below.

Table 9: Regression results of the variables for period 2022 - 2024

KPIs	Coefficient (b)	p-value	CI	R^2
Revenue from investments	+0.169	0.42	[-0.39, +0.73]	0.29
Members' contributions	+0.084	0.61	[-0.34, +0.51]	0.15
Net Assets	+1.856	0.09	[-0.27, +3.98]	0.73
Active members	+0.017	0.02	[+0.01, +0.03]	0.95

Source: Author's calculations (2026)

The aggregate results for the 4-year period relative to the effect of early access to pension on the performance of four KPIs indicated that:

a) Revenue and withdrawals, have a positive relationship (p-value = 0.42), though insignificant. The effect of withdrawals on revenue is uncertain (CI = -0.39, +0.73) with weak explanatory basis (R^2 = 0.29) to the revenue changes relative to withdrawals.

b) Members' contributions have a very weak relationship (p-value = 0.61) with early access to pension, and early withdrawals cannot explain (R^2 = 0.15) the changes in members' contributions. Members' contributions are minimally affected (CI = -0.34, +0.51) by early pension withdrawals.

c) The relationship between net assets and early access to pension is strong (p-value = 0.09). The 2024 financial data, indicating an increase and drastic reduction in net assets and early pension withdrawals, respectively, introduces instability arising from small data set.

d) Relationship between active membership growth (p-value = 0.02), and early access to pension is significant, and the increase in withdrawals are strongly associated with growth in membership (R^2 = 0.95).

DISCUSSION

Implications of Findings of the effect of early access to pension on financial performance of the NAPSA

The findings from this study have significant implications to the performance of the NAPSA. In the context of revenue from contributions, the study informs us that there is generally a negative relationship between revenue from investments and pension withdrawals, in that, if no pension withdrawals were permitted, revenue from investments would record a negative growth. This position is observed from the results indicating that, for every early pension withdrawal of a Zambian Kwacha, revenue from investments was estimated to grow by 2,100% in the year in 2023.

However, for the 2023-2024 period, revenue from investments and early pension withdrawals had an inverse relationship. It was observed that whilst revenue from investments was estimated to increase over 149% on the 2022-2023 performance, an increase of ZMW1 in early access to pension would result in a reduction in revenue from investments of ZMW0.1572. This inverse relationship between revenue from investments and early access to pension entails that the perpetuation of early access to pension would result in erosion of revenue from investments.

The positive implications of early access to pension on the financial performance of the NAPSA can also be observed through the contributions from pension members. The econometric results indicate that in 2023, contributions increased by 72.17%, and contributions for every Zambian Kwacha reduced by 78.28%. The results in 2024 indicate an opposite relationship, in that an increase in members' contribution would be adversely affected to the value of ZMW0.1361 for every one Zambian Kwacha withdrawn towards early partial pension. The 2024 results inform us to an extent that early access to pension does not motivate members to contribute.

In 2023, a mixed result relating to the value of net assets was also observed. Whilst the net asset value reduced by 9.12%, an early access to pension of one Zambian Kwacha is estimated to increase asset value increased by ZMW1.8559. The results for 2024 provides an alternative observation in that, a zero early access to pension increases the net assets value, and a withdrawal of ZMW1 would lead to a reduction in net assets to the value of ZMW2.0466. It is contended that the 2023-2024 results do inform us that early access to pension has an adverse effect on the net assets of the NAPSA.

The econometric results relating to membership population indicate a positive relationship between early pension withdrawals and increase in membership. However, it should be noted that the relations are weak in that at zero pension withdrawals the increase in members was a paltry 0.29%, and for every Kwacha pension withdrawal, an estimated increase of 2.3% in membership was expected. In 2024 membership population is estimated to increase by 28.16% with zero early access to pension, and the population would decrease by about 0.66% for every early access to pension of ZMW1.

The results in Table 9 does as an aggregate sum, generally agree with the above position. The individual relationship and effect of early pension withdrawals on the KPIs is: Revenue, the effect is uncertain and the relationship is insignificant; Members contributions, has a weak relationship and withdrawals have no effect on the changes in contributions; Net assets, have a strong and positive relationship with borderline significancy; and Active members, has a significant relationship and early access to pension does affect growth the increase in membership. The mixed results in Table 9 are attributed to small data set.

Strengths and Limitations of the Study

The main strength in this research is the robust use of Linear Regression Analysis in estimating the effect of the early access to pension on the financial performance of the NAPSA. The employing of the econometric method helped in addressing potential bias and ensured that the results provided a more accurate estimate of the causal effect of the early access to pension on the financial performance of the NAPSA.

In addition to the use of the econometric method, the study utilized a rich dataset comprising of audited financial statements, public statements and online magazine publications, all issued by the NAPSA. The data allowed for a robust analysis taking into account the key financial performance indicators of the NAPSA.

However, while the study has the above stated strengths, it also has limitations. Firstly, the research was premised on secondary data mainly authored by the NAPSA, which most likely may have had an inbuilt bias. Though the use of the Linear Regression Analysis may have mitigated the possible bias, it is not possible that all the biases may have been eliminated. Secondary, limited data set of four years is small leading to the research results being unstable with a very wide confidence intervals. Lastly, the research focuses on the financial performance of the NAPSA relative to only five of the many key performance indicators.

Potential for generalization to other studies

While this study is focused on the impact of early access to pension on the financial performance of the NAPSA, it can be generalized to: firstly, NAPSA's other performance indicators, such as workforce motivational levels and costs associated with the implementation of the early access to pension systems; secondly, to financial institutions such as commercial banks and micro financial lending institutions, relative to the impact of this early access has had on their respective financial and non-financial performance; and thirdly, its effect on the government's internal borrowing through instruments such as treasury bills and government bonds, and finally, the study's findings may be generalized to other countries where early access to pension funds has been implemented.

The possibility for generalization is supported by studies on the impact of early access to pension on the pension funds. In the Republic of Peru, it was observed that early access to pension resulted in an increase in active members and elevation of local investments above foreign investments (Superintendecia, 2023). In Chile, studies show that early access to pension had an adverse effect on the pension funds, in that individual pension benefits accounts reduced by ana average of 7.3% (Lorca, 2020). Findings from various studies underscores the need for continuous review of the impact of early access to pension on pension funds and in general, the economies of the respective countries.

Policy recommendations

Arising from the findings and limitations of this study, it is recommended that: firstly, further investigations be undertaken on the impart of early access to pension on the NAPSA, taking into account that sufficient time has lapsed from the date the law that permitted early access to pension came into force; secondly, a review and possible amendment to the pensions law, by way of inclusion of a section to provide for a duration when early access to pension will be in effect. The provision of a limitation of time may mitigate potential adverse effects of early access to pension on the NAPSA and the Zambian economy, in general; and thirdly, the NAPSA to undertake publicity events showcasing the benefits of early access to pension to active members. This may result in an increase in active members.

CONCLUSION

This study through its findings provides an impetus for further research on the impact of early access to pension on the financial performance of the NAPSA, as well as other organisations and the national economy at large. While the findings from this study indicate a positive impact of early access to pension on the financial performance of the NAPSA in 2023, which is the first-year early access to pension came into effect, this was not the case in 2024. The 2024 results indicate that early access to pension has an adverse effect on the financial performance of the NAPSA. These mixed results indicate a weakness which arises from the short period the early access to pension has been in effect, and the narrow focus of the study in the context of only investigation the financial impact of early access to pension relative to the four selected key performance indicators – Revenue from investments, Members' contributions, Net assets, and Active members.

However, even with the limitation as to the period of study, post the coming into force of the law permitting early access, the strength of this research is founded on the robustness of its methodology, data collected, and the data analysis method employed. The use of linear regression method to analyse the econometric data counters the identified limitations. The study acknowledges its limitations, which includes among others: first, the short research period, post early access to pension; second, data mostly collected from the NAPSA; and third, the limited number of selected key performance indicators.

The consistency in the results of this study anchored on the econometric analysis method employed may be replicated by other countries who have also permitted early access to pension, in the quest to understand the impact of this policy on their respective pension funds, financial institutions and the respective countries' money markets.

Ethical Considerations

This study did not require ethical approval as the research did not involve human subjects or animals.

The author declares that there are no financial or personal relationships that may have inappropriately influenced them in writing this article.

Data Availability

The primary data used in the study are available with the corresponding author, and can be availed upon request. Secondary data used in this study was obtained from National Pension Scheme Authority and can be accessed through the it's official website (https://www.napsa.co.zm/).

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