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Behavior and Determinants of Public Savings in Commercial Banks in Indonesia: A Dynamic Model Approach

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ABSTRACT

Purpose – This study evaluated the impact of macroeconomic determinants (Bank Indonesia policy interest rate, commercial bank deposit rate, national inflation rate) and demographic shifts (productive-age population) on public savings within Indonesian commercial banks. To resolve frequency discrepancies between annual demographic and quarterly macroeconomic data, a static temporal disaggregation procedure was applied.
Design/methodology/approach – The empirical analysis utilized a quantitative time-series dataset spanning an eight-year observation period from 2016 to 2023. A dynamic Error Correction Model (ECM) accommodated short-term behavioral responses while simultaneously capturing long-term structural equilibrium adjustments.
Finding/Results – The estimation established that policy and deposit interest rates yielded statistically insignificant impacts on public savings across both temporal horizons. In contrast, the national inflation rate exerted a negative and significant influence on deposit volumes. Furthermore, a larger working-age population exhibited a positive and significant effect on long-term capital accumulation. The dynamic framework confirmed a negative Error Correction Term, proving that savings behavior requires a transitional phase to correct temporal deviations following macroeconomic shocks.
Originality/Value – Policymakers must transition from isolated monetary rate manipulations toward integrated macroeconomic and demographic strategies. Synchronizing inflation control mechanisms with long-term demographic planning provides a robust foundation for institutional funding, demonstrating that structural economic stability dictates saving capacities more decisively than traditional yield incentives.

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1. Introduction

The global economic disruption triggered by the COVID-19 pandemic altered household financial behavior and challenged the stability of commercial banks (Peng et al., 2025). Traditional economic assumptions suggest that monetary easing stimulates immediate consumption; however, the pandemic created an inverse reality where public deposits surged despite lowered interest rates. This phenomenon indicates that psychological factors, primarily precautionary motives, temporarily overrode standard monetary incentives as households prioritized financial security (Levine et al., 2021). As primary custodians of household wealth, commercial banks must navigate these shifting risk profiles to maintain systemic resilience, requiring policy designs that align with actual behavioral responses rather than static theoretical expectations (Dursun-de Neef & Schandlbauer, 2022).

Examining the core determinants of savings reveals a complex interaction between macroeconomic policies and demographic realities. Policy interest rates and deposit rates typically guide savings allocation, but their effectiveness diminishes during periods of prolonged uncertainty (Gerritsen & Bikker, 2020). Concurrently, continuous inflation acts as a deterrent to deposit volumes by eroding real returns and purchasing power (Mamadiyarov et al., 2025). However, treating inflation as an isolated destructive force ignores the buffering capacity of a nation's demographic structure. A larger working-age population generates sustained aggregate savings that can absorb immediate economic shocks, whereas an aging population dampens this financial resilience (Jain & Goli, 2022; Koka, 2015).

Despite the observable interplay among these variables, current scholarly investigations present mixed results regarding their long-term effectiveness. A primary reason for this analytical ambiguity is the failure to differentiate between immediate crisis responses and subsequent structural adjustments (Azam, 2024). The initial influx of deposits driven by anxiety does not translate into permanent capital accumulation if sustained low interest rates and persistent inflation eventually discourage long-term financial commitments. Evaluating these determinants without explicitly integrating temporal phases obscures the behavioral feedback loops governing household decisions, increasing the risk of implementing misaligned policy interventions (Grishchenko & Sinyakov, 2024).

This temporal blindness highlights a methodological deficiency in existing financial literature. Conventional static models ignore the transitional adjustments between macroeconomic shocks and the eventual return to saving equilibrium. By treating economic variables as constant mechanisms without delayed responses, traditional frameworks produce inconsistent parameter estimates (Kim & Lee, 2008).

The evolving nature of post-pandemic recovery requires analytical tools capable of capturing these short-term anomalies and long-term interdependencies. Without a dynamic framework, empirical models fail to account for the delayed reactions of depositors adapting to demographic shifts and inflationary pressures (Czaplicki, 2024).

To address these theoretical and methodological gaps, this study evaluates the multidimensional impact of the policy interest rate, third-party fund interest rates, inflation, and the productive-age population on public savings behavior. By adopting a dynamic modeling approach, the research accommodates temporal heterogeneity while tracking the adjustment mechanisms toward long-term equilibrium. This empirical analysis decomposes marginal policy impacts into short-term shocks and long-term structural effects. This approach moves beyond static assumptions to provide an empirical basis for designing targeted interventions that stabilize the banking sector and support sustainable economic recovery in emerging markets.

The contribution of this study is to show, through a dynamic decomposition, that the policy rate channel weakens at the deposit margin once saving is driven by precaution rather than yield, while inflation and demographic structure govern the real persistence of deposits. This extends the monetary transmission and life-cycle savings literatures to bank deposits in a bank based emerging economy.

2. Literature Review & Hypothesis Development

2.1. Monetary Incentives and Precautionary Savings Behavior

The theoretical foundation of household savings behavior conventionally relies on the classical interest rate mechanism, where central banks adjust policy rates to influence commercial bank deposit rates (Ojeaga & Odejimi, 2014). Traditional assumptions dictate that monetary easing stimulates consumption while discouraging deposits. However, monetary policy easing during the crisis led to increased deposit inflows, driven by heightened precautionary motives rather than yield optimization (Peng et al., 2025). Depositors prioritized capital preservation, which resulted in sudden reallocations of funds into commercial banks to secure liquid assets (Levine et al., 2021). This anomaly suggests that standard monetary transmission mechanisms lose their predictive capacity during periods of economic disruption.

While these precautionary motives explain the immediate influx of deposits, they are insufficient to sustain capital accumulation over an extended horizon. Sustained low policy rates eventually discourage long-term savings, as households reevaluate their risk-return profiles in a stagnant yield environment (Peeters & de Vicq de Cumptich, 2025). Recent literature has introduced behavioral dimensions to explain this transition, indicating that ignoring the shift from short-term anxiety to long-term yield-seeking obscures the actual feedback loops governing commercial bank deposits (Gerritsen & Bikker, 2020). It is hypothesized that initial behavioral anomalies do not guarantee sustained institutional funding without appropriate monetary adjustments (Azam, 2024).

2.2. Inflationary Pressures and Deposit Volume Deterioration

As initial economic shocks subside, structural constraints begin to erode the temporary surge in precautionary savings. Continuous inflation acts as a primary deterrent to long-term deposit volumes by diminishing real returns and reducing household purchasing power (Mamadiyarov et al., 2025). Empirical studies have indicated that persistent inflationary pressures systematically offset earlier savings accumulations, forcing households to redirect funds toward immediate consumption or alternative tangible assets (Alhalboni & Baldwin, 2025). In developing and emerging economies, this dynamic is particularly severe, as inflation undermines economic stability and directly diminishes the capacity of households to maintain liquid reserves (El-Khodary et al., 2025).

Evaluating the effect of inflation in isolation provides an incomplete picture of financial resilience. Treating inflation merely as a destructive force ignores how macroeconomic shocks are absorbed differently depending on the structural characteristics of the economy. A great deal of research has established that the persistence of household deposits depends on how depositors adjust their expectations regarding future price (Grishchenko & Sinyakov, 2024). It is hypothesized that failing to account for the delayed reactions to inflationary pressures results in misspecified economic models. Therefore, analytical frameworks must incorporate dynamic adjustments to capture the timeline in which inflation transitions from an impending risk to an active deterrent of public savings (Mamadiyarov et al., 2025).

2.3. Demographic Configurations and Economic Resilience

The societal capacity to withstand inflation and respond to monetary policy is modulated by demographic configurations. A larger working-age population operates as an economic buffer, supporting aggregate savings through sustained productivity and the life-cycle hypothesis (Jain & Goli, 2022). During periods of uncertainty, this productive cohort generates sustained capital accumulation that can absorb immediate shocks. In contrast, an aging demographic profile exacerbates economic vulnerabilities, dampens the responsiveness of public savings to policy interventions, and exerts downward pressure on long-term real interest rates (Koka, 2015; Modena et al., 2026).

The interplay between these demographic variables and monetary instruments determines the long-term effectiveness of central bank policies. Scholars have demonstrated that an aging population complicates monetary policy transmission, especially during crises, by contributing to a decline in the natural rate of interest (Bielecki et al., 2023). Furthermore, empirical evidence from emerging markets has shown that demographic shifts dictate the speed at which public savings adapt to macroeconomic stimuli (Rai & Garg, 2025). It is hypothesized that economic models excluding demographic structures fail to measure the actual redistributive success of monetary interventions. Comprehensive evaluations need to integrate these population dynamics to accurately predict savings behavior across different temporal phases (Loko et al., 2025).

2.4. Methodological Transitions and Dynamic Integration

These three determinants act in sequence rather than in isolation: precaution drives the short run deposit surge, inflation erodes its real value, and demographic capacity determines whether accumulation persists into the long run. Only a framework that separates short run adjustment from long run equilibrium can capture this combined mechanism. Despite the documented interactions between interest rates, behavioral anomalies, inflation, and demographic shifts, existing financial models struggle to integrate these variables into a cohesive temporal framework. Previous investigations have captured either the immediate behavioral reactions or the eventual macroeconomic equilibrium, treating the transition as a static occurrence. By treating economic variables as constant mechanisms without delayed responses, traditional frameworks produce inconsistent parameter estimates (Kim & Lee, 2008). The analytical separation of short-term reactions and long-term equilibrium ignores the dynamic adjustment processes that characterize actual household financial behavior (Alon et al., 2023; Prabheesh et al., 2021).

A comprehensive evaluation requires a methodological approach capable of decomposing these complex determinants into distinct temporal effects. By employing a dynamic framework, the research captures the adjustment speed and the transitional phases of savings behavior. Tracking the error correction mechanism allows for the explicit separation of immediate macroeconomic shocks from long-term structural shifts. Addressing this theoretical gap provides an empirical basis for formulating monetary interventions based on dynamic evidence rather than disconnected static assumptions, ensuring that policies align with the actual evolution of household financial decisions.

Indonesia is an informative setting for this question, not merely a convenient one. Its demographic dividend supplies the variation in the working age population needed to identify the life cycle channel, while its bank dominated financial system means household saving flows directly into commercial bank liquidity. The post pandemic period adds a sharp test, because policy easing coincided with a precautionary deposit surge that ran counter to the textbook response.

3. Methodology

3.1. Data Sources and Variables

This study employed a quantitative time-series approach utilizing quarterly observations over an eight-year period from 2016 to 2023. Public savings, representing the accumulation of third-party funds, served as the dependent variable. The explanatory variables consisted of the Bank Indonesia policy interest rate (BI7DRR), commercial bank deposit interest rates (DPK), the national inflation rate (INF), and the productive-age population (POP).

The macroeconomic indicators, encompassing public savings, the policy interest rate, the deposit rate, and the inflation rate, were sourced directly from the official data publications of Bank Indonesia. Meanwhile, the demographic data concerning the productive-age population were obtained from the Central Statistics Agency (BPS). To stabilize error variance and accommodate scale differences, the population data was transformed into natural logarithms (LNPOP) prior to parameter estimation. A methodological challenge emerged because the macroeconomic indicators are available quarterly, whereas the demographic variable is reported annually, requiring data transformation to prevent timeline mismatches.

3.2. Static Temporal Disaggregation Procedure

To address this frequency discrepancy, researchers apply temporal disaggregation techniques to convert annual data into quarterly frequencies. Static models provide a basic framework to estimate high-frequency values from low-frequency data, allowing for the systematic alignment of observation points (Chamberlin, 2010; Rotinsulu & Radianto, 2024). It is hypothesized that ignoring this transformation produces inconsistent parameter estimates because temporal dependencies within the dataset remain misaligned. Deriving continuous high-frequency economic indicators requires a systematic interpolation approach to ensure data uniformity before executing parameter estimation (Quilis, 2018).

Following this rationale, the research applied a static temporal disaggregation procedure to distribute annual population variations across four quarters. The utilization of lag operators within this static framework accommodates the underlying growth trajectory of the annual data without requiring supplementary high-frequency reference series (Guay & Maurin, 2015). The calculation is mathematically formulated as follows:

$$Q_{kt} = \frac{1}{4} Y_t \left[1 + \frac{(k - 2.5)(1 - B)}{4} \right]$$

In this equation, Q_{kt} represents the disaggregated data for the k-th quarter of year t, and k denotes the specific quarter index ranging from 1 to 4. The variable Y_t indicates the aggregate annual data in year t. The symbol B functions as the backward lag operator, which refers to the previous year's aggregate value to smooth the transitional variations across periods (Bisio & Moauro, 2018).

3.3. Stationarity and Cointegration Diagnostics

Prior to estimating the adjustment mechanisms, the analytical sequence required the validation of data stationarity. Time-series variables concerning macroeconomic shocks frequently exhibit non-stationary properties, which generate spurious regression outcomes if modeled directly in their level forms. To address this issue, the Augmented Dickey-Fuller

(ADF) unit root test was employed to ascertain the integration order of each variable. Establishing stationarity through differencing is a prerequisite for identifying reliable economic trajectories amidst transitional fluctuations.

Following the stationarity validation, the study executed the Engle-Granger cointegration test to detect the presence of a long-term equilibrium relationship among the variables. While individual financial indicators fluctuate independently in response to short-term shocks, cointegration confirms that they move together systematically over an extended horizon. This diagnostic step prevents the loss of long-term informational value, ensuring that the modeled interactions reflect actual economic interdependencies rather than coincidental temporal correlations (Czaplicki, 2024).

3.4. Dynamic Error Correction Model (ECM)

Specification To capture both immediate behavioral responses and subsequent structural adjustments, this study adopted the Error Correction Model (ECM) framework. Conventional static models fall short in explaining the transitional phases of public savings, necessitating a dynamic approach that isolates temporal impacts. The ECM explicitly separates the analytical equation into long-term and short-term components. The long-term baseline is expressed as:

$$SAVING_t = \beta_0 + \beta_1 BI7DRR_t + \beta_2 DPK_t + \beta_3 INF_t + \beta_4 POP_t + \varepsilon_t$$

Subsequently, the short-term dynamics were evaluated by integrating the Error Correction Term (ECT). The ECT represents the lagged residual derived from the long-term equation and quantifies the speed at which public savings behavior corrects temporal deviations to return to equilibrium following a macroeconomic shock. The dynamic short-term equation is formulated as:

$$D(SAVING_t) = \beta_0 + \beta_1 D(BI7DRR_t) + \beta_2 D(DPK_t) + \beta_3 D(INF_t) + \beta_4 D(POP_t) + \beta_5 ECT_{t-1} + \varepsilon_t$$

In this dynamic specification, D denotes the first difference operator capturing short-term variations. The parameter β_0 serves as the intercept, while β_1 through β_4 measure the short-term elasticity coefficients of the explanatory variables. The coefficient β_{50} associated with the ECT_{t-1} measures the adjustment magnitude. A statistically significant and negative ECT parameter validates the model, establishing a justified temporal framework to evaluate how commercial bank deposits adapt to demographic and monetary shifts (Rai & Garg, 2025).

4. Result and Discussion

4.1. Stationarity Analysis

The empirical investigation commenced by evaluating the stationarity of the time-series variables. Time-series data concerning macroeconomic shocks frequently exhibit non-stationary properties at their level forms. To address this methodological constraint and prevent spurious regression outcomes, the Augmented Dickey-Fuller (ADF) unit root test was executed exclusively at the first difference level.

Table 1. Results of the 1st Difference Unit Root Test

Variable	Test Statistic	Probability	Note / Result
SAVINGS	-13.56107	0.0000	Stationary
BI7DRR	-6.639627	0.0000	Stationary
DPK	-12.90755	0.0000	Stationary

INF	-17.52232	0.0001	Stationary
POP	-16.80851	0.0001	Stationary

Source: Authors' calculation

The test outcomes presented in Table 1 confirmed that all variables, including public savings (SAVING), policy interest rate (BI7DRR), commercial deposit rate (DPK), inflation rate (INF), and productive-age population (LNPOP), achieved stationarity after the first differencing procedure. This stationary condition provided a stable data foundation for the subsequent dynamic modeling.

4.2. Cointegration Diagnostics

Following the stationarity validation at the first difference, the analytical sequence required testing for a long-term equilibrium relationship among the observed variables. The Engle-Granger cointegration test was applied to the regression residuals to verify that the individual financial indicators move together systematically over an extended horizon, thereby preventing the loss of long-term informational value.

Table 2. Results of the Engle-Granger ADF Cointegration Test

Target Series	ADF Statistic	Probability	Empirical Conclusion
Regression Residual	-3.671613	0.0098	Cointegrated

Source: Authors' calculation

Table 2 indicates that the absolute ADF test value of the residual (-3.671613) exceeded the critical threshold with a probability of 0.0098. This result confirmed that the variables were cointegrated, establishing the presence of a valid long-term equilibrium relationship among the determinants of public savings.

4.3. Classical Assumption Evaluations

Prior to extracting the short-term and long-term parameters, the econometric model underwent structured diagnostic procedures. Satisfying these diagnostic criteria guarantees unbiased and efficient parameter outputs by ensuring that the data distribution is normal and the variance remains consistent.

Table 3. Classical Assumption Diagnostics

Diagnostic Criteria	Test Method	Probability	Empirical Conclusion
Normality	Jarque-Bera	0.7597	Distributed Normally
Autocorrelation	Chi-Square(2)	0.0839	Absence of Autocorrelation
Heteroscedasticity	Obs*R-squared	0.1866	Absence of Heteroscedasticity
Multicollinearity	**Variable**	**Value**	
	BI7DRR	1.4811	No Multicollinearity
	DPK	1.0979	No Multicollinearity
	INF	1.3419	No Multicollinearity
	LNPOP	1.1347	No Multicollinearity

Source: Authors' calculation

The diagnostic evaluations in Table 3 demonstrated that the data distribution was normal, as indicated by a Jarque-Bera probability of 0.7597. Furthermore, the Variance Inflation Factor (VIF) values remained below the critical threshold, and the Chi-Square probabilities exceeded 0.05. These metrics confirmed that the model was free from multicollinearity, autocorrelation, and heteroscedasticity.

4.4. Long-Run Equilibrium Estimation

The estimation of the long-term equation captured the baseline equilibrium of public savings behavior in response to monetary and demographic determinants. This estimation identifies which variables dictate long-term capital accumulation.

Table 4. Long-Run ECM Estimation on Public Savings

Variable	Coefficient	Std. Error	t-Statistic	Probability
C	-201364.6	44294.06	-4.546085	0.0001
BI7DRR	-20.59019	69.39568	-0.296707	0.7690
DPK	-9.394644	75.13994	-0.125029	0.9014
INF	-350.5472	55.90996	-6.269853	0.0000
LNPOP	12.32625	2.506569	4.917570	0.0000
R-squared:			**F-statistic:**	**Prob (F-stat):**
0.741353			19.34735	0.000000

Source: Authors' calculation

The empirical output in Table 4 demonstrated that BI7DRR and DPK yielded statistically insignificant impacts on public savings. Conversely, INF exerted a negative and significant influence (coefficient: -350.5472, p=0.0000). LNPOP exhibited a positive and significant effect on long-term deposit volumes (coefficient: 12.32625, p=0.0000). The R-squared value of 0.741353 indicated that the independent variables explained 74.13% of the variation in long-term public savings.

4.5. Short-Run Dynamics and Error Correction

The final phase of the empirical analysis evaluated the short-term dynamics and the speed of adjustment toward the baseline equilibrium. An error correction mechanism was required to track the transitional phases of public savings following immediate macroeconomic shocks. A valid dynamic model must exhibit a negative and significant Error Correction Term (ECT) to confirm the adjustment process.

Table 5. Short-Run ECM Estimation on Public Savings

Variable	Coefficient	Std. Error	t-Statistic	Probability
C	52.40055	71.69389	0.730893	0.4716
D(BI7DRR)	-119.4803	110.5051	-1.081220	0.2899
D(DPK)	23.00039	119.9733	0.191713	0.8495
D(INF)	-142.3535	67.76913	-2.100566	0.0459
D(LNPOP)	-14.48463	21.96878	-0.659328	0.5157
ECT(-1)	-0.446382	0.187632	-2.379030	0.0253
R-squared:			**F-statistic:**	**Prob (F-stat):**
0.309356			2.239622	0.081740

Source: Authors' calculation

The short-term estimation results in Table 5 produced a significant ECT coefficient of -0.4463 (p=0.0253), confirming the model's validity and indicating the speed at which temporal deviations return to equilibrium. Within this short-term temporal frame, only INF demonstrated a statistically significant negative impact on public savings (p=0.0459). Meanwhile, BI7DRR, DPK, and LNPOP yielded statistically insignificant short-term effects on public savings behavior.

4.4. Discussion

The empirical estimation revealed that the Bank Indonesia policy interest rate (BI7DRR) and commercial deposit rates yielded statistically insignificant impacts on public savings across both temporal horizons. Traditional macroeconomic assumptions dictate that central bank interest rates directly guide deposit allocations. However, the economic disruption during the observed period altered this linear transmission. It is hypothesized that during periods of uncertainty, psychological factors such as precautionary motives and financial anxiety outweigh standard monetary incentives (Levine et al., 2021). Depositors prioritize capital preservation and institutional trust rather than yield optimization, which drives sudden reallocations of funds regardless of the prevailing interest rates (Gerritsen & Bikker, 2020). The rate channel loses traction because deposits held for safety respond to the demand for liquidity, not to the marginal yield, so the insignificance is a structural feature of deposit demand under uncertainty rather than estimation noise. Consequently, sustained low policy rates eventually disconnect aggregate deposit volumes from central bank interventions. This outcome indicates that relying solely on interest rate manipulations provides limited effectiveness in stabilizing long-term banking liquidity when public financial behavior is driven by risk aversion (Azam, 2024).

In contrast to the monetary variables, the national inflation rate exerted a negative and statistically significant influence on public savings in both the short-run and long-run frameworks. This finding confirms that continuous inflation acts as a persistent deterrent to deposit volumes. As general consumer prices increase, households experience a deterioration in purchasing power and real returns on their savings. Empirical studies corroborate that persistent inflationary pressures systematically offset earlier precautionary savings accumulations (Alhalboni & Baldwin, 2025). Faced with eroded real income, the public is forced to redirect their financial allocations away from commercial bank deposits toward immediate consumption or alternative tangible assets to protect their wealth (Mamadiyarov et al., 2025). Inflation binds in both horizons because it acts on the real return that savers ultimately retain, a margin that nominal rate adjustments cannot restore, whereas the rate instruments act on a nominal margin that savers discount when the motive to hold deposits is safety. This dynamic emphasizes that maintaining price stability is an absolute prerequisite to sustain institutional funding in the banking sector, as monetary incentives fail to compensate for the loss of real value.

The demographic indicator, represented by the productive-age population, exhibited a divergent temporal impact. While statistically insignificant in the short term, a larger working-age population demonstrated a positive and significant effect on long-term public savings. Short-term insignificance occurs because immediate macroeconomic shocks and sudden income constraints temporarily override the saving capacities of the demographic structure (Zhang et al., 2023). However, over an extended horizon, a robust working-age cohort operates as an economic buffer that supports aggregate savings through sustained productivity and the life-cycle hypothesis (Jain & Goli, 2022). This structural configuration suggests that regions with a growing productive population possess better long-term resilience to absorb economic shocks and maintain aggregate capital accumulation, whereas aging populations exert downward pressure on long-term bank liquidity (Koka, 2015).

Beyond the individual variable impacts, the dynamic estimation produced an ECT) coefficient of -0.4463, which was statistically significant. This parameter indicates that approximately 44.63% of the temporal deviation caused by short-term macroeconomic shocks is corrected within a single quarter to restore the long-term saving equilibrium. The validity of this adjustment mechanism proves that household financial behavior does not adapt instantaneously to economic disruptions. Instead, depositors require a transitional phase to reassess their risk-return profiles and adjust their financial commitments following a shock (Rai & Garg, 2025). The presence of this feedback loop validates the necessity of utilizing a dynamic econometric architecture. Evaluating savings determinants without explicitly separating these temporal phases obscures the actual transitional evolution of household decisions.

Synthesizing these empirical outcomes reveals that structural constraints and demographic configurations dictate public savings behavior more decisively than direct monetary rate interventions. Commercial banks and central authorities cannot depend exclusively on policy rate adjustments to secure deposit inflows during periods of economic recovery. The persistent negative impact of inflation combined with the long-term positive influence of the working-age population illustrates that actual capital accumulation relies on macroeconomic stability and demographic productivity. These results mark the regime dependent limit of conventional monetary policy: the policy rate steers deposits only when saving is yield driven, and once precaution or inflation dominates, price stability and demographic structure become the binding determinants of banking liquidity. Designing effective financial policies requires an integrated approach that prioritizes inflation control and leverages demographic advantages. By aligning banking strategies with these actual behavioral responses and structural economic capacities, policymakers can foster a stable financial environment that ensures the sustainability of commercial bank liquidity.

5. Conclusion and Suggestion

The empirical investigation established that the Bank Indonesia policy interest rate and commercial bank deposit rates yielded statistically insignificant impacts on public savings across both temporal horizons. It is hypothesized that during periods of economic disruption, psychological risk aversion and precautionary motives override standard interest rate incentives, disconnecting aggregate deposit volumes from central bank interventions. In contrast, the national inflation rate exerted a negative and statistically significant influence on public savings, as persistent inflationary pressures erode purchasing power and force the public to redirect funds toward immediate consumption. Conversely, a larger working-age population exhibited a positive and significant impact on long-term capital accumulation, operating as a structural economic buffer that supports aggregate savings through sustained productivity. Furthermore, the dynamic econometric evaluation confirmed a significant negative Error Correction Term, proving that household financial behavior requires a transitional phase to correct temporal deviations caused by short-term macroeconomic shocks. To foster sustainable banking liquidity, central authorities and commercial institutions must transition from isolated monetary adjustments toward integrated macroeconomic and demographic strategies. Relying exclusively on monetary rate manipulations provides limited effectiveness when household financial allocation adapts primarily to economic uncertainty rather than traditional yield incentives. Therefore, policymakers are advised to synchronize inflation control mechanisms with targeted financial literacy programs and long-term demographic planning. It is hypothesized that leveraging the productive-age workforce while maintaining strict price stability provides a robust foundation for capital accumulation and institutional funding. By aligning banking strategies with these actual behavioral responses and structural economic capacities, policymakers can construct a resilient financial environment that guarantees the sustainability of commercial bank deposits.

Two implications follow. For scholarship, deposit side transmission is shown to be regime dependent on the prevailing saving motive, extending the monetary transmission and life-cycle savings literatures to bank liquidity in an emerging market. For practice, central banks should treat credible inflation control, rather than rate adjustment alone, as the primary lever acting on real deposit returns, while commercial banks can expect inflows to track perceived safety and real value more closely than headline rates, and can sustain funding through products that protect real value and fit the saving life cycle of a working age customer base.

6. Limitations and Future Research

While this study provides an empirical foundation for analyzing public savings behavior, several methodological and data constraints must be acknowledged. The current empirical framework utilized aggregate national-level macroeconomic data and applied a static temporal disaggregation procedure to align annual demographic variables into quarterly frequencies. It is hypothesized that relying exclusively on aggregate metrics and static interpolation obscures micro-level demographic heterogeneity and the complex cyclical fluctuations inherent in evolving economic systems. Furthermore, the applied Error Correction Model assumed a linear and symmetrical adjustment mechanism, which risks ignoring potential saturation points and asymmetric responses to sudden macroeconomic shocks. To address these constraints, future research must integrate granular intra-regional microdata and utilize dynamic temporal disaggregation techniques, such as Autoregressive Distributed Lag models, to accommodate lagged effects and delayed macroeconomic responses. Exploring non-linear dynamic frameworks will also construct a more precise empirical basis, assisting policymakers in formulating targeted monetary interventions that adapt to diverse economic cycle phases.

Beyond structural data limitations, the econometric specification relied strictly on quantitative macroeconomic determinants, thereby omitting behavioral parameters and technological shifts. During periods of economic disruption, psychological factors such as financial anxiety, risk perception, and institutional trust act as primary drivers of sudden deposit reallocations. Additionally, the current analytical framework does not account for the rapid digital transformation within the financial sector, where alternative digital investment platforms compete directly with traditional commercial bank deposits. It is hypothesized that quantitative models without behavioral and digitalization indicators produce an incomplete evaluation of modern saving behavior. Future investigations should adopt mixed-methods approaches that combine dynamic macroeconomic modeling with qualitative behavioral assessments. Incorporating financial technology adoption rates and digital literacy metrics is necessary to evaluate the future stability of commercial bank liquidity and understand how depositors adjust their risk-return profiles in a digitized financial ecosystem.

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Declaration of AI and AI-assisted technologies in the writing process

During the preparation of this work, the author(s) used Scopus AI in order to identify relevant literature. After using this tool, the author(s) reviewed and edited the content as needed and take full responsibility for the content of the publication.

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