ISSN 2616-5902 Vol. 8, Issue 10: 48-56, DOI: 10.25236/AJBM.2026.081007

# Negotiable Certificate of Deposit Issuance Scale and Financing Costs of China's Large State-Owned Commercial Banks

**Enze Zhang[1,a], Junping Chen[1,b,*]**

*[1]College of Business and Economics, Shanghai Business School, Shanghai, China*
*[a]zhangenze0623@163.com, [b]mogu0922@sina.com*
** Corresponding author*

***Abstract:*** *This paper takes the issuance scale of negotiable certificates of deposit (NCDs) as the explanatory variable and introduces macro-level control variables—including FDR007, the year-on-year growth rate of M2, and the 10-year government bond yield—while employing a bank fixed effects model for the empirical analysis. The results show that, after controlling for the macro interest rate environment, there is a significant positive relationship between NCD issuance scale and financing cost: as the issuance scale expands, financing cost rises accordingly. Notably, a simple correlation analysis reveals a weak negative correlation between the two; however, this is largely driven by the macro interest rate environment. During the sample period the overall monetary environment was relatively accommodative, and low interest rates were often accompanied by larger issuance scales, which produced an apparent negative correlation. Only after the relevant macro control variables are included does the impact of issuance scale on financing cost become clearly evident. Although the economic magnitude of this effect is limited—markedly smaller than that of interbank funding rates and the long-term government bond yield—its direction is clear and statistically significant. The macro liquidity environment thus remains a major determinant of NCD pricing, whereas issuance scale reflects the bank's own marginal effect. The robustness test results are broadly consistent with the baseline regression, indicating that the conclusions of this paper are reasonably reliable.*

***Keywords:*** *Negotiable Certificates of Deposit, Financing Cost, Issuance Scale, Bank Fixed Effects, Large State-owned Commercial Banks*

## 1. Introduction

### *1.1. Research Background and Significance*

With the continuous development of China's financial markets, competition on the liability side of commercial banks has become increasingly pronounced. Bank liability management and the pricing of market-based funding instruments are central to modern banking operations [1].Thanks to flexible issuance methods, diverse maturity options, and a high degree of marketization, NCDs have gradually become an important tool for banks' liquidity management and are widely used by large commercial banks. Compared with traditional deposits, NCDs offer greater advantages in short-term financing, and their share in banks' liability structures has therefore risen.

An expansion in the scale of NCD issuance does not necessarily bring only liquidity improvement. On the one hand, a larger issuance scale can rapidly replenish a bank's funds; on the other hand, concentrated issuance within a short period, or a tight overall funding environment, can push up financing costs. The issuance behavior of large state-owned commercial banks not only reflects changes in their own funding needs but also influences the market's assessment of their liquidity and risk status.

This paper mainly examines whether the scale of NCD issuance affects the financing costs of large state-owned commercial banks. Drawing on daily NCD data of large state-owned commercial banks from 2021 to 2025 and incorporating variables such as the interbank market rate, the year-on-year growth rate of M2, and the 10-year government bond yield, this paper investigates the relationship between changes in NCD issuance scale and financing costs from a more intuitive perspective. Researching this issue carries practical significance. At present, the banking system's reliance on

ISSN 2616-5902 Vol. 8, Issue 10: 48-56, DOI: 10.25236/AJBM.2026.081007

market-based liability instruments has increased, and NCDs are highly sensitive to interest rates, so their issuance costs are easily affected by changes in market liquidity. A clearer understanding of the relationship between issuance scale and financing cost will help banks improve their liability structures and arrange issuance timing appropriately; it also has practical value for regulators in monitoring liquidity risks in the banking system and improving relevant regulatory policies.

### *1.2. Research Approach and Methods*

This paper first analyzes, from a theoretical perspective, the possible mechanisms through which NCD issuance scale affects financing cost, and then builds an empirical model based on the daily panel data of large state-owned commercial banks, testing the research hypothesis by means of descriptive statistics, correlation analysis, fixed effects regression, and robustness tests.

This paper uses a bank fixed effects panel model to control for bank-level characteristics that do not change over time, such as asset size and ownership structure, and employs macro control variables such as the interbank funding rate, money supply, and the long-term government bond yield to improve the accuracy of model estimation. It should be noted that, because FDR007, M2, and the 10-year government bond yield are all market-wide explanatory variables, adding time fixed effects would completely absorb the above macro variables; therefore, this paper adopts only a model that includes bank fixed effects.

### *1.3. Structure of the Paper*

The paper is divided into six parts. The first part is the introduction, which presents the research background, significance, methods, and structure of the paper; the second part is the literature review; the third part covers theoretical analysis and research hypotheses; the fourth part is the research design; the fifth part is the empirical analysis; and the sixth part presents the conclusions and suggestions.

## 2. Literature Review

### *2.1. Research on NCDs and Bank Financing Costs*

Existing studies show that NCDs are an important proactive liability instrument for commercial banks, and that an expansion in NCD issuance scale exerts complex micro-level effects on liability costs. The theory of banking emphasizes that liquidity creation and the associated fragility are intrinsic to banks' funding activities [2]. Peng and Rong (2020) [3] argue that the rapid expansion of NCD issuance tends to intensify interbank liability competition, thereby raising the overall liability cost and the level of risk-taking. Guo and Huang (2021) [4] hold that NCD pricing is largely determined by a bank's own liquidity premium: when a bank faces a structural funding gap, expanding its issuance scale signals liquidity pressure to the market and thereby pushes up NCD rates. In addition, from the perspective of liquidity regulation and maturity structure, King (2013) [5] argues that indicators such as the Net Stable Funding Ratio (NSFR) prompt banks to adjust the boundary and maturity of proactive liabilities, which makes the marginal effect of scale expansion on cost more complex.

### *2.2. Research on Money Market Rates and Bank Liability Pricing*

Because NCDs are highly market-priced, they are very sensitive to the macro liquidity environment. Sun et al. (2019) [6] argue that interbank market rates (DR007 and FDR007) serve as the transmission intermediary of the monetary policy operating rate and can quickly reflect real-time market liquidity; a rise in these rates directly increases the marginal issuance cost of NCDs. Ji et al. (2018) [7] regard NCDs as the micro-level link connecting the central bank's policy rate with banks' liability costs. Zhang and Dai (2022) [8] argue that the 10-year government bond yield acts as a medium- to long-term expectation anchor, and that its movements indirectly push up NCD pricing by altering market-wide risk premia. In recent years, Gao et al. (2023) [9] and Acharya et al. (2024) [10], examining the context of uncertain shocks and embedded shadow banking activities, have proposed incorporating macro liquidity and the broad money supply (M2) into the examination of bank liability pricing.

### *2.3. Review of the Literature*

In summary, existing domestic and foreign literature has achieved fruitful results in monetary policy

ISSN 2616-5902 Vol. 8, Issue 10: 48-56, DOI: 10.25236/AJBM.2026.081007

transmission, short-term interest rate co-movement, and NCD risk premia; however, the following margins for improvement remain. First, most existing studies focus on the linear transmission of macro policy rates and lack causal identification of how the micro-level proactive liability strategy of "changes in a bank's own issuance scale" feeds back into its own "financing cost." Second, because monthly or quarterly low-frequency data are mostly used, existing literature tends to smooth over and ignore the real-time clearing characteristics of NCDs at the daily high-frequency level. Third, systematic empirical research on large state-owned commercial banks, a special pricing entity, is relatively scarce. Therefore, based on the daily high-frequency unbalanced panel data of large state-owned commercial banks from 2021 to 2025, this paper controls for bank individual fixed effects in an attempt to eliminate macro confounding bias and to accurately identify the net effect of issuance scale on the financing costs of large banks, thereby providing a useful supplement to macro-level research.

## 3. Theoretical Analysis and Research Hypotheses

### *3.1. Theoretical Analysis*

The relationship between changes in NCD issuance scale and bank financing cost is not a simple linear one; behind it lie factors such as market supply and demand, liquidity conditions, and investor expectations.

When a bank expands its NCD issuance scale, this is generally accompanied by an increase in short-term funding demand. When overall market liquidity is ample, new issuance will not have a pronounced effect on financing cost; however, when liquidity is tight, if many banks issue NCDs in a concentrated manner, the market's capacity to absorb funds is relatively weak, investors will demand a higher yield as compensation, and the issuance rate will rise. This is especially true when short-term funding conditions fluctuate greatly, in which case the effect of scale changes on financing cost becomes more pronounced.

The issuance scale itself also conveys a certain signal to the market. Investors will consider that, if a bank significantly increases its NCD issuance scale within a short period, the market will perceive the bank as facing greater liability-side pressure or stronger liquidity demand. The lower a bank's own credit rating, the higher the risk compensation investors demand from it, and the higher its financing cost. It is quite common in financial markets that financing behavior itself affects market expectations.

The macro interest rate environment has a substantial influence on NCD pricing. FDR007, the M2 year-on-year growth rate, and the 10-year government bond yield all affect the overall price of funds in the market. When the monetary environment is accommodative, banks' financing costs are generally low, and banks also increase their NCD issuance scale; as a result, a situation of "larger scale but lower rates" easily arises in simple correlations. However, the negative correlation is more the result of the joint effect of the macro environment, and does not necessarily mean that the issuance scale itself can lower financing cost.

Therefore, the relationship of a single variable can hardly determine the true link between issuance scale and financing cost. After controlling for the macro interest rate environment, this paper seeks to further identify the net effect of issuance scale on financing cost.

### *3.2. Research Hypotheses*

Based on the above analysis, this paper proposes the following hypothesis:

H1: After controlling for the macro interest rate environment, an expansion in NCD issuance scale will significantly raise the financing costs of large state-owned commercial banks.

The core of this hypothesis is "after controlling for the macro interest rate environment." Because an accommodative monetary environment simultaneously lowers financing costs and encourages banks to expand issuance, not controlling for macro factors may lead to the observation of a negative correlation between issuance scale and financing cost. This phenomenon indeed exists in the descriptive statistics, but it does not imply causality; rather, it results from macro confounding effects. This paper uses fixed effects regression to identify the net effect between the two.

ISSN 2616-5902 Vol. 8, Issue 10: 48-56, DOI: 10.25236/AJBM.2026.081007

## 4. Research Design

### *4.1. Sample Selection and Data Sources*

This paper takes the daily data of five large state-owned commercial banks—Industrial and Commercial Bank of China, China Construction Bank, Agricultural Bank of China, Bank of China, and Bank of Communications—from January 2021 to December 2025 as the research sample. The dependent variable is the NCD issuance rate (one-year); the core explanatory variable is the NCD issuance scale (one-year); and the control variables are FDR007, the M2 year-on-year growth rate, and the 10-year government bond yield. Because NCDs are not issued every day, this paper retains only samples on actual issuance days and excludes missing records without issuance dates, ultimately obtaining daily unbalanced panel data with 2,171 valid observations.

The data on NCD issuance rates and issuance scale are obtained from the NCD issuance announcements publicly disclosed on the China Money Network (Chinamoney) and, after manual compilation and cleaning, are organized into bank-level daily data. FDR007 data come from the China Foreign Exchange Trade System; the M2 year-on-year growth rate data come from the monthly statistics on the official website of the People's Bank of China [11] and are converted into a daily series by interpolation; and the 10-year government bond yield data come from the daily data of China Central Depository & Clearing Co., Ltd. (ChinaBond valuation). All variables were screened for outliers, and extreme observations exceeding the mean ± 3 standard deviations were winsorized.

### *4.2. Variable Definitions*

The dependent variable is financing cost (rate), i.e., the NCD issuance rate, which is the price of funds a bank pays to the market in order to issue NCDs. The core explanatory variable is issuance scale, expressed as the natural logarithm of the NCD issuance scale. Because the distribution of issuance scale is markedly right-skewed, taking the logarithm can reduce heteroskedasticity and improve model fit. Table 1 presents the definitions of the variables used in this paper.

There are three categories of control variables. The first is interbank liquidity (fdr007), a real-time liquidity indicator reflecting the short-end market interest rate level and affecting a bank's NCD issuance cost. The second is money supply (m2), an indicator reflecting the medium-term macro liquidity environment. The third is the long-term interest rate (yield10y), which reflects the market's judgment of the long-term risk-free rate and serves as an important anchor for pricing medium- and long-term NCD varieties. It should be noted that the correlation coefficient between yield10y and rate is 0.925; both are affected by the monetary policy cycle, so the two are relatively likely to share common variation in the model. However, because this paper mainly focuses on the net effect of each variable in the fixed effects model, and the variance inflation factor (VIF) test found no serious multicollinearity problem, the regression results still have certain reference value.

*Table 1: Variable definitions.*

| Variable | Symbol | Definition | Treatment |
|---|---|---|---|
| Financing cost | rate | NCD issuance rate | Original value |
| Issuance scale | issue | NCD issuance scale | Original value |
| Log of issuance scale | lnissue | Logarithm of NCD issuance scale | ln(issue+1) |
| Interbank liquidity | fdr007 | 7-day interbank repo rate | Original value |
| Money supply | m2 | M2 year-on-year growth rate | Original value |
| Long-term interest rate | yield10y | 10-year government bond yield | Original value |

### *4.3. Model Specification*

To identify the effect of NCD issuance scale on financing cost, this paper establishes a bank fixed effects panel model, specified as follows:

$$\text{rate_it} = \alpha + \beta_1 \,\text{lnissue_it} + \beta_2 \,\text{fdr007_t} + \beta_3 \,\text{m2_t} + \beta_4 \,\text{yield10y_t} + \mu\text{_i} + \varepsilon\text{_it} \quad (1)$$

where i denotes the bank, t denotes the period, μ_i represents the bank fixed effect, and ε_it is the random disturbance term. Because FDR007, M2, and the 10-year government bond yield are all market-wide variables, adding time fixed effects would completely absorb the macro time variables; therefore, this paper adopts a bank fixed effects model and does not add time fixed effects.

ISSN 2616-5902 Vol. 8, Issue 10: 48-56, DOI: 10.25236/AJBM.2026.081007

There may be reverse causality between this paper's core explanatory variable (issuance scale) and the dependent variable (issuance rate): when financing cost rises, banks reduce issuance, and when financing cost falls, banks expand issuance. To make a preliminary judgment on the influence of endogeneity, the issuance scale lagged by one period was used in place of the original issuance scale variable and included in the regression model. The results show that the coefficient of the lagged term is 0, indicating that the effect of issuance scale on financing cost is mainly a contemporaneous effect rather than a pronounced intertemporal transmission, which also demonstrates, to some extent, the dominance of the contemporaneous effect. However, stricter methods for addressing endogeneity, such as instrumental variables, still need to be tested in future research.

## 5. Empirical Analysis

### *5.1. Descriptive Statistics*

Table 2 reports the descriptive statistics of the variables. Regarding financing cost (rate), the sample mean is 2.271%, the standard deviation is 0.444, the minimum is 1.530%, and the maximum reaches 4.650%. As shown in the table, the NCD issuance rates of large state-owned commercial banks fluctuated to some extent during 2021–2025, broadly consistent with monetary policy and changes in market funding conditions during the sample period.

The mean issuance scale is 7.749 billion yuan, but the standard deviation is 8.3664 billion yuan, indicating considerable differences in issuance scale across banks and over time. The maximum value of 48.32 billion yuan also indicates that a bank's issuance scale can sometimes grow very rapidly. Because the raw data exhibit an obvious right-skewed feature, this paper applies a logarithmic transformation to issuance scale.

As for the control variables, the mean of FDR007 is 1.868%, the mean of the 10-year government bond yield is 2.473%, and the mean M2 year-on-year growth rate is 9.060%. Overall, the distributions of the variables are basically normal, with no obvious outliers, meeting the requirements of the subsequent panel regression analysis.

*Table 2: Descriptive statistics of variables.*

| Variable | N | Mean | Std. Dev. | Min | Max |
|---|---|---|---|---|---|
| rate | 2171 | 2.271 | 0.444 | 1.530 | 4.650 |
| issue | 2171 | 77.490 | 83.664 | 0.100 | 483.200 |
| lnissue | 2171 | 3.525 | 1.553 | 0.095 | 6.182 |
| fdr007 | 2171 | 1.868 | 0.262 | 1.250 | 3.190 |
| m2 | 2171 | 9.060 | 1.881 | 6.200 | 12.900 |
| yield10y | 2171 | 2.473 | 0.500 | 1.596 | 3.280 |

### *5.2. Correlation Analysis*

Table 3 presents the correlation matrix among the main variables. The correlation coefficient between financing cost (rate) and issuance scale (lnissue) is −0.122, a weak negative correlation. On the surface, this is inconsistent with the direction of the research hypothesis proposed in this paper.

However, this result is mainly due to the influence of the macro environment during the sample period. During 2021–2025, the overall monetary environment was relatively accommodative, and market interest rates were generally at a low level. When financing cost is low, banks generally expand their NCD issuance scale, so the phenomenon of "low rates corresponding to a larger issuance scale" easily arises, forming a negative correlation in the simple correlation analysis.

In terms of correlation coefficients, the correlation of rate with yield10y is 0.925 and with FDR007 is 0.705, indicating that financing cost is closely related to the macro interest rate environment. This implies that, without controlling for macro interest rate variables, it is difficult to accurately identify the effect of issuance scale itself on financing cost using single-variable relationships alone.

In the subsequent fixed effects regression, once variables such as FDR007 and yield10y are added to the model, the coefficient of the issuance scale variable becomes significantly positive, indicating that the earlier negative correlation is mainly a confounding result caused by the macro liquidity environment.

ISSN 2616-5902 Vol. 8, Issue 10: 48-56, DOI: 10.25236/AJBM.2026.081007

*Table 3: Correlation matrix of variables.*

| Variable | rate | lnissue | fdr007 | m2 | yield10y |
|---|---|---|---|---|---|
| rate | 1.000 | −0.122 | 0.705 | 0.390 | 0.925 |
| lnissue | −0.122 | 1.000 | −0.114 | −0.077 | −0.148 |
| fdr007 | 0.705 | −0.114 | 1.000 | −0.010 | 0.556 |
| m2 | 0.390 | −0.077 | −0.010 | 1.000 | 0.536 |
| yield10y | 0.925 | −0.148 | 0.556 | 0.536 | 1.000 |

### *5.3. Baseline Regression Analysis*

Table 4 presents the baseline regression results. The regression coefficient of the logarithm of issuance scale (lnissue) is 0.0064, significantly positive at the 1% level, indicating that, after controlling for the macro interest rate environment, the larger the NCD issuance scale, the higher the financing cost of large state-owned commercial banks, and research hypothesis H1 is thus verified.

In terms of statistical significance, the t-value of lnissue is 4.158, indicating a high confidence level and a relatively reliable conclusion. In terms of economic significance, using the sample standard deviation of lnissue of 1.553, a one-standard-deviation change in lnissue affects rate by approximately $0.0064 \times 1.553 \approx 0.010$ percentage points, that is, about 1 basis point. Compared with fdr007 (coefficient 0.4420, standard deviation 0.262, contributing about 11.6 basis points) and yield10y (coefficient 0.7200, standard deviation 0.500, contributing about 36.0 basis points), the economic effect of issuance scale is relatively limited. The results show that, against the backdrop of the macro interest rate environment dominating financing cost, the marginal effect of a bank's individual issuance-scale decision on financing cost is very small, but its direction is clear and statistically significant. The high credit quality of large state-owned commercial banks narrows, to some extent, the room for issuance scale to affect rates, yet the net upward effect of scale expansion on financing cost still exists.

Among the control variables, the coefficient of FDR007 is 0.4420, significantly positive at the 1% level, indicating that a one-percentage-point rise in the interbank market funding rate raises the NCD financing cost by approximately 0.44 percentage points. The coefficient of the 10-year government bond yield is 0.7200, significantly positive, indicating that a one-percentage-point rise in the long-term risk-free rate raises the price of funds on the bank's liability side by approximately 0.72 percentage points—the largest economic impact. The coefficient of M2 is negative but insignificant, indicating that money supply has little direct effect on daily financing cost, consistent with the characteristics of M2 as a medium- to long-term liquidity indicator with a relatively slow transmission path. Beyond this slow transmission and time lag, the deeper reason lies in the technical limitation of the data frequency: because the original M2 value is a monthly statistical indicator, after the daily equivalent interpolation smoothing in this paper, its daily series suffers from a severe lack of single-day variation in the time dimension and therefore cannot statistically explain single-day interest rate changes in the high-frequency regression model.

*Table 4: Baseline regression results.*

| Variable | Coefficient | Std. Error | t-value | Significance |
|---|---|---|---|---|
| lnissue | 0.0064 | 0.0015 | 4.1577 | *** |
| fdr007 | 0.4420 | 0.0119 | 37.1580 | *** |
| m2 | −0.0084 | 0.0051 | −1.6398 | |
| yield10y | 0.7200 | 0.0111 | 65.1470 | *** |

Note: *** denotes significance at the 1% level.

### *5.4. Robustness Tests*

To test whether the results are stable, this paper conducts two robustness tests.

In the first robustness test, this paper replaces the logarithm of issuance scale with the raw value of issuance scale (issue) in the regression. The results show that the coefficient of issue is 0.0001, significant at the 1% level. Whether expressed in raw or logarithmic form, the direction of the effect of issuance scale on financing cost remains unchanged. The results show that, for each additional 100 million yuan in issuance scale, financing cost rises by approximately 0.0001 percentage points. Although the economic effect is small, the overall direction is consistent with the baseline regression, as shown in Table 5.

ISSN 2616-5902 Vol. 8, Issue 10: 48-56, DOI: 10.25236/AJBM.2026.081007

In the second robustness test, the one-period-lagged logarithm of issuance scale (lnissue_lag1) is used in the regression. The results show a coefficient of −0.0006, but it is insignificant. This indicates that the effect of issuance scale on financing cost is more of a contemporaneous effect than a pronounced intertemporal one. This is also related to the pricing characteristics of the NCD market: market investors generally price based on current liquidity conditions and the supply-demand relationship of funds, so the issuance scale of the previous period has little effect on the current financing cost, as shown in Table 6.

Overall, the results of the two robustness tests are broadly consistent with the baseline regression results, indicating that this paper's conclusions regarding the relationship between issuance scale and financing cost are relatively stable.

*Table 5: Robustness test (I).*

| Variable | Coefficient | Std. Error | t-value | Significance |
|---|---|---|---|---|
| issue | 0.0001 | 0.00003 | 5.0587 | *** |
| fdr007 | 0.4421 | 0.0129 | 34.2170 | *** |
| m2 | −0.0082 | 0.0051 | −1.6206 | |
| yield10y | 0.7204 | 0.0114 | 62.9390 | *** |

Note: *** denotes significance at the 1% level.

*Table 6: Robustness test (II).*

| Variable | Coefficient | Std. Error | t-value | Significance |
|---|---|---|---|---|
| lnissue_lag1 | −0.0006 | 0.0009 | −0.7501 | |
| fdr007 | 0.4427 | 0.0123 | 36.0930 | *** |
| m2 | −0.0082 | 0.0050 | −1.6334 | |
| yield10y | 0.7166 | 0.0097 | 74.1300 | *** |

Note: *** denotes significance at the 1% level.

## 6. Conclusions and Suggestions

### *6.1. Research Conclusions*

Based on the daily panel data of large state-owned commercial banks since 2021, this paper explores the relationship between NCD issuance scale and financing cost. The following conclusions can be drawn from the above regression results.

After controlling for macro variables such as FDR007, the M2 year-on-year growth rate, and the 10-year government bond yield, a positive relationship exists between NCD issuance scale and financing cost. That is, when a bank expands its NCD issuance scale, its financing cost rises. Although the economic magnitude of the effect is not large, the statistical result is fairly stable, indicating that issuance scale itself does have a certain effect on financing cost.

A weak negative correlation exists between issuance scale and financing cost, yet the coefficient turns positive in the fixed effects regression. This shows that simple correlations are easily affected by the macro liquidity environment. During the sample period the overall interest rate level was low, and banks generally expanded NCD issuance during low-interest-rate phases, so an apparent negative correlation easily arises. Once the macro interest rate variables are controlled for, the direction of the effect of issuance scale on financing cost becomes clearer.

From the results for the control variables, FDR007 and the 10-year government bond yield have a greater effect on financing cost than issuance scale, indicating that the market funding rate and the long-term interest rate environment remain the main factors determining NCD pricing, whereas issuance scale reflects more of a bank's own marginal effect.

The robustness test results are broadly consistent with the baseline regression. Whether the raw value of issuance scale is used as a substitute or a one-period-lagged variable is introduced, the core conclusion does not change markedly, showing to a certain extent that the model results of this paper are relatively stable.

ISSN 2616-5902 Vol. 8, Issue 10: 48-56, DOI: 10.25236/AJBM.2026.081007

### *6.2. Policy Suggestions*

According to the research results, banks should still pay attention to the relationship between issuance scale and financing cost when conducting NCD financing. Especially when market liquidity is tight, issuing a large number of NCDs within a short period will further raise financing cost. Therefore, banks should arrange their issuance pace reasonably and should not rely excessively on short-term market financing. The influence of the market interest rate environment on financing cost is more pronounced: when formulating financing plans, banks should pay more attention to changes in market indicators such as FDR007 and the government bond yield, and flexibly adjust the timing and amount of issuance according to funding conditions. Moderately increasing issuance when market liquidity is relatively ample can reduce financing pressure. From a regulatory perspective, it is also necessary to continue promoting the optimization of banks' liability structures. At present, some banks rely relatively heavily on market-based liability instruments such as NCDs, and changes in market interest rates have a relatively large effect on their financing. If market funding conditions fluctuate greatly in the future, banks' financing costs will also be affected. Therefore, appropriately increasing the proportion of stable deposits and improving the long-term liability structure are of practical necessity.

### *6.3. Limitations and Prospects*

This paper still has several limitations. First, the sample selects only five large state-owned commercial banks and is not further extended to joint-stock banks or city commercial banks. Different types of banks differ in credit level, financing capacity, and liability structure, so whether the conclusions apply to other banks requires further research.

Second, the treatment of endogeneity remains relatively limited. Although a one-period-lagged issuance-scale variable is added in the robustness test, this cannot fully resolve the contemporaneous reverse-causality problem. Since NCD issuance scale and financing cost influence each other, future research may adopt methods such as instrumental variables or exogenous policy shocks to achieve stricter causal identification.

Third, this paper does not further discuss the effect of issuance scale under different liquidity environments. Theoretically, when the market funding environment is tightening, the effect of issuance scale in pushing up financing cost is greater. Subsequent research may consider adding interaction terms to analyze differences in the effect across market environments.

Fourth, this paper mainly studies one-year NCDs and does not distinguish among different maturity structures. In fact, the pricing logic of NCDs of different maturities may differ, and future research may further refine the analysis by maturity.

## References

*[1] Mishkin, F.S. (2019) The Economics of Money, Banking, and Financial Markets. 13th ed. Hoboken: Pearson.*
*[2] Diamond, D.W. and Rajan, R.G. (2001) Liquidity Risk, Liquidity Creation, and Financial Fragility: A Theory of Banking. Journal of Political Economy, 109(2), 287-327.*
*[3] Peng, Y.C. and Rong, Y. (2020) NCD Expansion, Liability Competition and Commercial Banks' Risk-Taking. Finance & Trade Economics, 41(2), 54-69.*
*[4] Guo, Y. and Huang, Z. (2021) NCD Issuance, Liquidity Mismatch and Bank Risk Premiums. Journal of Financial Research, (11), 92-110.*
*[5] King, M.R. (2013) The Basel III Net Stable Funding Ratio and Bank Liquidity. Journal of Banking & Finance, 37(11), 4144-4156.*
*[6] Sun, G.F. and Research Group on the Transmission Mechanism of Monetary Policy Operating Rates (2019) An Empirical Study of the Interest Rate Transmission Mechanism in China's Interbank Market: A Perspective Based on DR007 and FDR007. Economic Research Journal, (12), 34-48.*
*[7] Ji, M., Zhang, X. and Yan, B.Y. (2018) The Pricing Mechanism and Interest Rate Transmission of China's NCD Market. Finance Forum, 23(11), 3-14.*
*[8] Zhang, X.Y. and Dai, M. (2022) Research on the Relationship between the Government Bond Yield Curve and Short-term Money Market Rates. Statistics & Decision, 38(8), 140-144.*
*[9] Gao, H., Li, J. and Wen, H. (2023) Bank Funding Costs during the COVID-19 Pandemic: Evidence from China. Pacific-Basin Finance Journal, 79, 102006.*
*[10] Acharya, V.V., Qian, J., Su, W. et al. (2024) In the Shadow of Banks: Wealth Management*

ISSN 2616-5902 Vol. 8, Issue 10: 48-56, DOI: 10.25236/AJBM.2026.081007

*Products and Interbank Markets in China. Journal of Financial Economics, 154, 103780.*
*[11] Monetary Policy Analysis Group of the People's Bank of China (2021–2025) China Monetary Policy Report (Quarterly, 2021–2025). Beijing: People's Bank of China.*