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Demand for Money in China Based on Most Recent Data

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Abstract

China's banking sector has undergone remarkable changes since its economic reform in 1978. China eliminated its credit plan in 1998, and the banking sector was no longer strictly controlled by the government. We revisit China's demand for money after the banking sector moved toward being market-based. Structural break tests indicate that 2003Q1 is a breakpoint. Hence, we estimate money demand in China from 2004Q1 to 2022Q3. For comparison, we also carry out estimations for data from 1999Q1 to 2022Q3. We employ three different methods: Autoregressive Distributed Lags (ARDL), Dynamic Ordinary Least Squares (DOLS), and Fully Modified Ordinary Least Squares (FMOLS). Our results show that the income elasticity is approximately 1. Both the interest and inflation rates may reflect part of the opportunity costs of holding money. The results from both DOLS and FMOLS support the existence of the currency substitution effect. The Cumulative Sum of Recursive Residuals (CUSUM) and the cumulative sum of squares of recursive residuals (CUSUMSQ) stability tests suggest that the demand for money in China is stable in the long run.

Keywords

Money Demand in China, Real Effective Exchange Rate, Interest Rate, Inflation Rate, ARDL Model, Dynamic OLS (DOLS), Fully Modified OLS (FMOLS)

1. Introduction

Money demand is a classic and critical macro issue. It has been extensively and substantially examined in many countries. This is because the relationship between money demand, macro variables, and monetary policies is essential for an economy. Naturally, money demand in China has attracted increasing interest

since China took reform in 1978. As noted by EI-Shagi and Zheng (2022), there were 61 papers on money demand in China published between 1987 and 2016 in both English and Chinese. EI-Shagi and Zheng (2022) reviewed these studies in detail. They summarized previous literature on model specification, dependent variables, definition of monetary aggregates, empirical results, and stability conclusions. EI-Shagi and Zheng (2022) find that the income elasticity results are slightly ambiguous. They also detected substantial publication bias towards rejecting stability". However, EI-Shagi and Zheng (2022) believe that the long-run demand for money is stable once publication bias is controlled.

In general, the previous literature on money demand in China can be roughly divided into two groups based on the estimation method adopted (Bahmani-Oskooee & Wang, 2007) and the data employed (Chen et al., 2021). Studies in the first group applied standard estimation techniques to data from the pre-reform and/or early reform periods. Most literature published before 2005 belongs to the first group. Chow (1987), Yi (1993), and Xu (1998) are examples of the studies in the first group. Many studies in the first group have focused on the determinants of the demand for money and the specification of monetary aggregates. Early literature often argued that the interest rate was not a good measurement of the opportunity costs of holding money in China since the interest rate was not market oriented. The second group includes more recent studies that applied various cointegration approaches to data over the post-reform and/or late reform periods, for example, Lee and Chien (2008), Bahmani-Oskooee et al. (2012), and Chen et al. (2021). Many studies in the second group have concentrated on the stability of money demand in China, possible currency substitute effects, and probable appropriate additional determinants.

We examine more recent literature on money demand in China (since 2005) in the Econlit database and summarize the main characteristics of each study in **Table 1**. There are two main reasons for focusing on literature published after 2005. First, the literature after 2005 usually applies cointegration approaches, which should be more advanced than the standard estimation method. Second, China has undergone gradual but dramatic reforms since 1978, which will be briefly described in Section 2. China was a planned economy before its economic reforms. Even in the early stages of the economic reform, China was under strict capital control. Chinese banks were tightly controlled by the government, and the financial system lacked market-oriented policies before 1998. We are interested in the demand for money in China after the Chinese banking sector has become more market based. More recent literature usually applies up-to-date data that may reflect the ongoing Chinese reforms.

From **Table 1**, more recent literature employed different cointegration techniques and data sets, but all after its economic reform. All papers in **Table 1** used M2, while a few used both M1 and M2 to measure the money aggregate in China. Unlike earlier literature, most studies consider the interest rate as one of the determinants of demand for money in China. Although the results are mixed, some studies find that interest rates have negative effects on money demand in

Table 1. Money demand in China literature after 2005 (Chronological Order).

Paper	Money Aggregate	Determinants	Estimation Method	Data Employed	Income Elasticity	Effect of Interest Rate	Currency Substitution Effect?	Stability
Bahmani-Oskooee and Wang (2007)	M1/M2	Y, R, R*, EX	ARDL	1983Q1 to 2002Q4	1.281/1.691	Negative/not significant	No	Stable/Not Stable
Lee and Chien (2008)	M1/M2	Y, R	Johansen cointegration	1977-2002	1.013/1.110	Negative	N.A.	Structure break at 1979, 1983, 1988, 1992-1993
Bahmani-Oskooee et al. (2012)	M2	Y, R, π, EX, output volatility, money supply volatility	Bounds testing	1983Q1 to 2010Q2	1.111	Negative	No	Stable
Lee and Chang (2012)	M1/M2	Y, R	Bounds testing	1977-2006	0.884/0.915	Negative	N.A.	Stable/Stable
Bahmani-Oskooee et al. (2016)	M2	Y, π, EX/EX asymmetric effect	ARDL	1996Q1 to 2015Q1	1.458/1.114	NA	No	Stable/Stable
Wang (2017)	M1/M2	Y, R, R*, EX Or Y, π, EX	ARDL	1999Q1 to 2008Q1	1.47/1.04	Mixed Or NA	No for M1/Yes for M2	Mixed
Bahmani-Oskooee and Aftab (2020)	M2	Y, R, π, EX, policy uncertainty/policy uncertainty asymmetric effect	ARDL	Jan 2010 to May 2020	0.054/0.024	Not significant	Yes	Stable/Stable
Chen et al. (2021)	M2	Y, R, π	VECM/VAR	1981Q1 to 1992Q4; 1993Q1 to 2018 Q3	1.507/1.511; 1.460/1.461	Negative/Negative; Positive/Positive	N.A.	Structure break at 1992
Liu et al. (2022)	M2	Y, R, consumer price, housing price	FMOLS	N.A.	Varies from 1.13 to 1.74	Negative	N.A.	Structure break at 1992-1995; 2007-2008; 2010

Note: EX is exchange rate, R is domestic interest rate, R* is foreign interest rate, Y is national income, π is inflation rate, N.A. means not available.

China. The income elasticity of money demand ranges from 0.024 to 1.511, while several results are close to 1. Numerous recent studies have included exchange rates as the main factor for money demand in China. Although China has evolved to be the second largest country measured in Gross Domestic Product (GDP) and the largest country with foreign trade, studies generally do not find a currency substitution effect. The stability results were inconsistent. Approximately half of the papers in Table 1 found that the demand for money in

China is stable.

For all the literatures we examine, most of them do not carry out Breakpoint test to inspect possible structural break although China has undergone substantial reforms. The central bank of China, People's Bank of China, only started open market operations and abolished the credit plan system in 1998. However, most of the literature we examine apply data including data before 1998, when China's banking sector was tightly controlled by its government. We suspect China's money demand would be different under strict government control and in more market-oriented environment. We would like to fill the gap of the literature by focusing on the money demand in China after Chinese banking sector started open market operations.

The remainder of this paper is organized as follows. Section 2 reviews the reforms in the Chinese banking sector. Section 3 explains the empirical model and the estimation method. Section 4 presents the empirical results and discussion, and Section 5 concludes the study.

2. Review of Chinese Banking Sector Reform

China began its economic reform in 1978. As the Chinese economy transitioned from a planned economy to a social market economy, China's banking sector gained more independence. As He and Wei (2022) indicate, Chinese reform can be divided into three stages: the first stage covers 1979 to 1993, the second stage covers 1994 to 2003, and the third stage runs from 2004 to the present. To better understand this process, we outline the major events and changes in **Table 2**. Please refer to He and Feng (2019), Das and Song (2022), and He and Wei (2022) for detailed information.

As **Table 2** shows, China's banking sector reform is continuous. However, there are a few moments to which extra attention should be paid. In 1998, China abolished its credit plan. Therefore, China's banking sector was manipulated by its government before 1998, and progressively became more market-based after 1998. Since 2003, the interest rate has no longer been tightly managed by the government. The government set a baseline of a floor for lending rates that was eventually eliminated in 2013 and a baseline of a ceiling for deposit rate that was removed in 2015. Clearly, the Chinese banking system was much more market-oriented after the first- and second-stage reforms.

3. The Model and Method

Following traditional theory, money demand is a function of transaction demand for money, often estimated by domestic income, and speculative demand for money, frequently evaluated by the opportunity costs of holding money. According to earlier literature, the interest rate may not be a proper measurement of the opportunity costs of holding money in China. However, based on more recent literature, interest rates may be a factor in money demand. Thus, we use both the domestic interest and inflation rates to capture the opportunity costs of

Table 2. Major banking sector reforms in China since 1978.

Time	Major Banking Sector Reforms in China since 1978
Before 1978	Mono-bank system (People's Bank of China or PBC is the central bank and sole commercial bank). Planned Economy (banking sector was strictly under government control).
First Stage 1979-1993	The banking system expanded and diversified, but still operated on a credit plan system. Transferred PBC's commercial operations to four specialized banks (the Big Four). PBC is designated to be the central bank in 1983. Allowed the four banks to compete for loans and deposits. Interbank borrowing and lending networks were created. Rural credit cooperatives, urban credit cooperatives, and other new financial institutions were created. Established the deposit reserve system.
Second Stage 1994-2003	PBC started open market operations and abolished the credit plan system in 1998. Three policy banks were established and have overseen policy lending since 1994. Move direct monetary control to indirect control. Required banks to improve their asset liability management since 1998. 270 billion yuan of special-purpose bonds were injected into the Big Four in 1998. Set up 4 state-owned asset management companies in 1999-2000. 1394-billion-yuan nonperforming loans from the Big Four were transferred to the asset management companies. Set a baseline of a floor for lending rates and a baseline of a ceiling for deposit rates in 2003.
Third Stage 2004-present	China started "share ownership reform" that consists of recapitalization, the disposal of non-performing loans, and the introduction of foreign strategic investors in 2003. Banks gain more independence and policies are more market oriented. The Big Four started their restructuring. The financial service industry was fully opened to foreign sectors in 2006. Classified the Bank of Communications as a state-owned commercial bank in 2007. Eliminated the floor for lending rates in 2013. Eliminated the ceiling for deposit rates in 2015. Deposit insurance went into effect in 2015. Introduced market-driven loan prime rate as the benchmark lending rate in 2019.

holding money in China. As China is the largest trading nation and second largest country in the world at present, following Bahmani-Oskooee et al. (2016), we include the exchange rate in the model to detect possible currency substitution effects. Hence, money supply can be specified as a linear model outlined in Equ-

ation (1):

$$LnM_t = a + bLnY_t + cLnR_t + dInf_t + eLnEX_t + \varepsilon_t \quad (1)$$

where M is the Chinese monetary aggregate M2 in real terms. Real M2 is calculated from nominal M2 deflated by consumer price index (CPI). Nominal quarterly M2 data from 1999Q1 to 2019Q2 were obtained from the Federal Reserve Economic Data (FRED) by the Federal Reserve Bank of St. Louis. Nominal quarterly M2 from 2019Q3 to 2022Q4 is calculated from monthly data, which are from FXEMPIRE (https://www.fxempire.com/macro/china/money-supply-m2). The CPI data are also from the FRED.

Y is Chinese real income measured by Chinese real GDP. Data on Chinese Nominal GDP is from FRED and are then weighted by the price index. An increase in real income usually leads to higher transaction demand for money. Then, the estimate of the coefficient Y should be positive.

R is the domestic nominal interest rate, and data on the domestic nominal interest rate are from FRED. Inf is the inflation rate calculated from the CPI data. Both higher interest rates and inflation rates raise the opportunity costs of holding money and reduce speculative demand for money. Therefore, the estimate of the coefficients for both R and Inf is expected to be negative.

EX is the Real Effective Exchange Rate, which is also from FRED. Note that under the definition of the real effective exchange rate, a decrease in the real effective exchange rate reflects depreciation of the Chinese currency. When the Chinese currency depreciates, the public tries to increase wealth by holding more foreign currency and less domestic currency. This is known as the substitution effect. If this effect exists, the estimate of the coefficient of EX should be positive.

As discussed earlier and as pointed out by Wang (2017), the Chinese banking sector was strictly under government control before 1998 and only gradually became market-oriented after China put an end to the credit plan in 1998. Hence, the data we used runs from 1999Q1 and 2022Q3 (the most recent quarterly data available by FRED).

Table 3 lists descriptive statistics of the main variables used in this study.

However, even after 1999, the Chinese banking system underwent a dramatic transformation, which may have caused structural breaks. Hence, before

Table 3. Summary of data from 1999Q1 to 2022Q3.

Summary of Data from 1999Q1 to 2022Q3					
	M	Y	R	f	EX
Mean	944.7210	128.0365	3.1120	3.3263	82.9200
Standard Deviation	639.0615	73.7312	0.3652	4.5465	11.6786
Max	2257.7977	286.4741	4.5900	37.8513	102.4547
Min	150.7280	27.2138	2.7000	0.1384	65.5491
Number of Observations	95	95	95	95	95

conducting the empirical analysis, we applied the Quandt-Andrews Unknown Breakpoint Test to identify possible structural breaks.

After the structural breakpoint is identified, we follow Pesaran et al. (2001) and specify an Autoregressive Distributed Lag (ARDL) version of the error-correction model in Equation (2) to carry out the empirical analysis:

$$\begin{aligned}\Delta LnM_t = {} & \alpha + \sum_{j=1}^{n} \beta_j \Delta LnM_{t-j} + \sum_{j=0}^{n} \gamma_j \Delta LnY_{t-j} + \sum_{j=0}^{n} \delta_j \Delta LnR_{t-j} \\ & + \sum_{j=0}^{n} \theta_j \Delta Inf_{t-j} + \sum_{j=0}^{n} \rho_j \Delta LnEX_{t-j} + \omega_1 LnM_{t-1} \\ & + \omega_2 LnY_{t-1} + \omega_3 LnR_{t-1} + \omega_4 Inf_{t-1} + \omega_5 LnEX_{t-1} + \mu_t\end{aligned} \tag{2}$$

ARDL does not require pre-unit root testing. Pesaran et al. (2001) apply the F-test to determine the cointegration among the variables in Equation (2). If and only if the F-test is larger than the upper-bound critical values provided by Pesaran et al. (2001), cointegration is suggested.

It is widely known substantial reforms may cause instability in money demand. Thus, we are curious about the stability of the estimated money-demand function. If the variables in the money demand functions are cointegrated, we plot the Cumulative Sum of Recursive Residuals (CUSUM) and the cumulative sum of squares of recursive residuals (CUSUMSQ). The estimated coefficients were stable only when the plots of CUSUM and CUSUMSQ remained within the 5% critical values shown by the two straight lines.

When employing ARDL to estimate Equation (1), we assume that money demand depends on real income, interest rate, inflation rate, and exchange rate, while all the dependent variables are independent. This assumption is reasonable, but not accurate. For example, money demand and exchange rates may affect real income. In other words, endogeneity and correlation may exist between the variables in Equation (1). Stock and Watson (1993) designed dynamic ordinary least squares (DOLS) to add seemingly superfluous non-trending variables (lags and leads) to a cointegrated regression to solve the finite sample bias of ordinary least squares (OLS) caused by endogeneity. Fully modified least squares (FMOLS) by Phillips and Hansen (1990) modify least squares to account for serial correlation effects and endogeneity in the regressors that result from the existence of a cointegrating relationship. Therefore, to obtain a better idea of the money demand function in China, we adopt both DOLS and FMOLS to estimate Equation (1).

4. The Empirical Results and Discussions

As discussed earlier, China has gradually and dramatically reformed its banking system, which may cause a structural break. The results of the Quandt-Andrews Unknown Breakpoint Test are reported in **Table 4**. The probability of all test statistics is significant at the 1 percent level, suggesting 2003Q1 is a structural break point.

We then applied the Chow Breakpoint Test to examine whether 2003Q1 is

Table 4. Results of Quandt-Andrews unknown breakpoint test.

Quandt-Andrews Unknown Breakpoint Test		
Statistic	**Value**	**Prob**
Maximum LR F-statistic (2003Q1)	7.5840	0.0000
Maximum Wald F-statistic (2003Q1)	37.9202	0.0000
Exp LR F-statistic	2.1732	0.0006
Exp Wald F-statistic	14.8896	0.0000
Ave LR F-statistic	4.0294	0.0000
Ave Wald F-statistic	20.1471	0.0000

Note: The table is generated based on the Quandt-Andrews Unknown Breakpoint Test results. Prob stands for probability.

Table 5. Results of chow breakpoint test: 2003Q1.

Chow Breakpoint Test: 2003Q1		
Statistic	**Value**	**Prob**
F-statistic	7.5840	0.0000
Log likelihood ratio	35.0440	0.0000
Wald Statistic	37.9202	0.0000

Note: The table is generated based on the Chow Breakpoint Test results. Prob stands for probability.

indeed a structural breakpoint. The results of the Chow Breakpoint Test are listed in Table 5, which confirm that 2003Q1 is the structural break point. This may reflect two crucial reforms that started in 2003: easing the strict control of the interest rate and share ownership reform.

Given the results of the Quandt-Andrews unknown breakpoint test and the Chow breakpoint test, we decided to estimate the money demand function from 2004Q1 to 2022Q3. For comparison, we also use a similar method to evaluate money demand in China from 1999Q1 to 2022Q3. The results of the long-run coefficient estimates using the ARDL and F-test results are summarized in Table 6.

From Table 6, the F-statistic is 18.0679 when data runs from 2004Q1 to 2022Q3, while it is 19.8939 when data is from 1999Q1 to 2022Q3, both of which are greater than 4.37, the 99% upper bound of F-statistics. This supports the cointegration among variables. The error correction term for Equation (2) is negatively significant, which is further evidence of cointegration. When applying the data from 2004Q1 to 2022Q3, the coefficients of both real income and inflation carry the expected signs and are significant. The value of income elasticity is close to one, as traditional money demand theory suggests. The coefficients of interest and exchange rates are not significant. When data from 1999Q1 to 2022Q3 are employed, the coefficients of both real income and inflation are

Table 6. Results of long-run coefficient estimates by ARDL.

Long-run Coefficient Estimates by ARDL				
Data Used	2004Q1 to 2022Q3		1999Q1 to 2022Q3	
	Value	Prob	Value	Prob
LnY	1.0985 (0.0899)	0.0000	1.2108 (0.0404)	0.0000
LnR	−0.0442 (0.2248)	0.8449	−0.2523 (0.1494)	0.0955
InF	−0.1364 (0.0381)	0.0007	−0.1213 (0.0376)	0.0019
LnEX	−0.0053 (0.3698)	0.9886	−0.2837 (0.2516)	0.2631
Optimal lags	2, 2, 6, 0, 0	N.A.	3, 3, 5, 0, 0	N.A.
F-test at Optimal lags	18.0679	N.A.	19.8939	N.A.
F-statistics 99% Lower Bound	3.29	N.A.	3.29	N.A.
F-Statistics 99% Upper Bound	4.37	N.A.	4.37	N.A.
Error Correction Term	−0.0850 (0.0078)	0.0000	−0.0979	0.0000

Note: The table is generated based on the ARDL estimation results. The number inside parentheses is the standard error. Prob stands for probability, while N.A. stands for not available.

significant with the expected signs. The coefficient of the interest rate was negative and significant. The coefficient of the exchange rate is insignificant, suggesting that currency substitution does not exist.

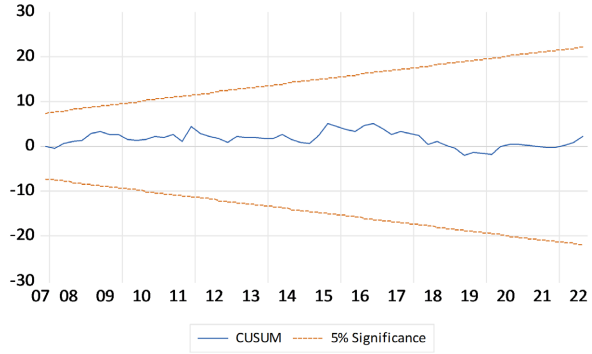
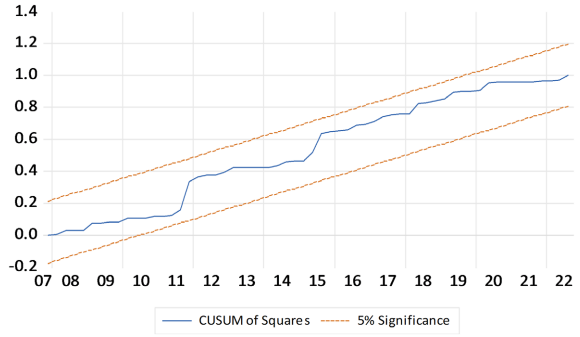
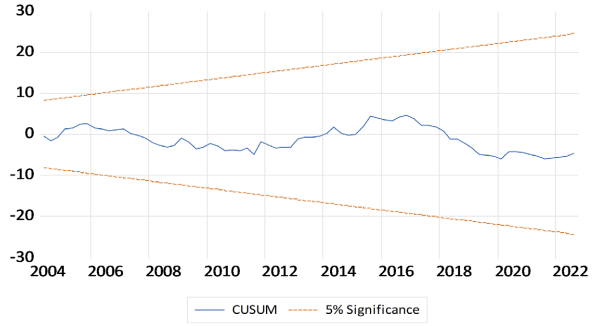
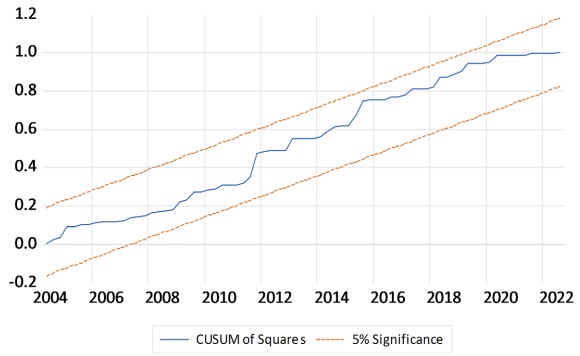
Table 7 presents the results of the CUSUM and CUSUMQ stability tests. Specifically, the first row presents the stability test results for data from 2004Q1 to 2022Q3, while the second row shows the stability test results toward data from 1999Q1 to 2022Q3.

From Table 7, the plots of CUSUM and CUSUMSQ under different time spans remain within the 5% critical values represented by two straight lines. This implies that money demand in China is stable even though China's banking sector has undergone abundant reforms.

Table 8 and Table 9 summarize the results estimated by DOLS and FMOLS, respectively.

From Table 8, when applying DOLS to the data from 2004Q1 to 2022Q3, all coefficients carry the expected signs and are significant. When applying DOLS to data from 1999Q1 to 2022Q3, all coefficients except for the inflation rate are significant with the expected sign. From Table 9, when employing FMOLS to estimate Equation (1), all coefficients except the one for inflation hold the expected sign and are significant for both data spans.

Table 7. The results of stability tests.

Stability Test Results		
Data used	**CUSUM**	**CUSUMQ**
2004Q1 to 2022Q3		
1999Q1 to 2022Q3		

Note: The table is generated based on the CUSUM and CUSUMSQ stability test results.

Table 8. Results of long-run coefficient estimates by DOLS.

Long-run Coefficient Estimates by DOLS				
Data Used	**2004Q1 to 2022Q3**		**1999Q1 to 2022Q3**	
	Value	**Prob**	**Value**	**Prob**
LnY	1.1097 (0.0285)	0.0000	1.1618 (0.0164)	0.0000
LnR	−0.3463 (0.1109)	0.0028	−0.2794 (0.1009)	0.0071
Inf	−0.0437 (0.0173)	0.0145	−0.0221 (0.0180)	0.2255
LnEX	0.4140 (0.0541)	0.0000	0.3351 (0.0375)	0.0000

Note: The table is generated based on the DOLS estimation results. The number inside parentheses is the standard error. Prob stands for probability, while N.A. stands for not available.

Comparing the estimation results from 2004Q1 to 2022Q3 with the results from 1999Q1 to 2022Q3 using different estimation methods, the significance of some coefficients is different. More importantly, the values of the coefficients for

Table 9. Results of long-run coefficient estimates by FMOLS.

Long-run Coefficient Estimates by FMOLS				
Data Used	2004Q1 to 2022Q3		1999Q1 to 2022Q3	
	Value	Prob	Value	Prob
LnY	1.1024 (0.0324)	0.0000	1.1536 (0.0150)	0.0000
LnR	−0.4996 (0.1002)	0.0000	−0.3637 (0.0751)	0.0000
Inf	0.0148 (0.0100)	0.1431	0.0110 (0.0072)	0.1292
LnEX	0.4501 (0.0538)	0.0000	0.3587 (0.0290)	0.0000

Note: The table is generated based on the FMOLS estimation results. The number inside parentheses is the standard error. Prob stands for probability, while N.A. stands for not available.

real income, interest rate, inflation rate, and exchange rate are not the same. Hence, the structural break point of 2003Q1 influences the estimation outcome. Future studies should value this structural break point when estimating the money demand in China.

Next, we compared the estimated results by ARDL with the results obtained by DOLS and FMOLS. When employing data from 2004Q1 to 2022Q3, the coefficient of the interest rate is not significant by ARDL, while it is significant by DOLS and FMOLS. The coefficient of inflation rate is significant with the expected sign when we employ ARDL to estimate, while all coefficients of inflation rate (except for DOLS for data from 2004Q1 to 2022Q3) are not significant. Inflation seems to be an appropriate measurement for opportunity costs of holding money in China when ARDL is employed, while the interest rate is a proper assessment for opportunity costs of holding money in China when DOLS or FMOLS is applied. Nevertheless, unlike earlier literature, the interest rate probably has become crucial to Chinese money demand as China gradually reforms its banking sector.

Finally, the coefficients of the exchange rate are not significant in the ARDL estimation. However, all the coefficients of the exchange rate are significantly positive for DOLS and FMOLS. This implies that currency substitution exists, according to the DOLS and FMOLS computation results.

5. Conclusion

China's banking system has considerably reformed. According to the Quandt-Andrews unknown breakpoint test and Chow breakpoint test results, 2003Q1 is a structural break point. This implies that easing the strict control of the interest rate and share ownership reform may have profound impact on the money demand in China. Naturally, we estimated the Chinese money demand function

from 2004Q1 to 2022Q3. For comparison, we also conduct a cointegration analysis of money demand using data from 1999Q1 to 2022Q3. For each time span, we apply three cointegration techniques: ARDL, DOLS, and FMOLS.

The F-test for ARDL revealed the cointegration of Chinese money demand with its determinants: real income, interest rate, inflation rate, and exchange rate. The error correction term for the short-run estimates confirmed this result. The CUSUM and CUSUMQ stability tests suggest that the demand for money in China is stable in the long run. Our results show that an increase in real income increases money demand, and the income elasticity is about one. Both inflation and interest rates may partly reflect the opportunity cost of holding money. Unlike early studies on the demand for money in China, we find evidence that the interest rate is a critical determinant of money demand in China. This confirms the effectiveness of the reform of the Chinese banking sector. China should further relax its control on interest rate and improve its banking sector toward market-oriented direction. It also suggests interest rate could be a powerful tool of monetary policy once China's banking sector is predominantly market oriented. The results from the DOLS and FMOLS estimations demonstrate the existence of currency substitution. As the Chinese currency depreciates, price of foreign currency measured in domestic currency is higher. The Chinese public can boost their wealth by holding more foreign currency and less domestic currency. Chinese exchange rate is not completely market-determined yet. Chinese government may want to pay attention to this possible currency substitution effect when they try to manage its exchange rate.

Conflicts of Interest

The author declares no conflicts of interest regarding the publication of this paper.

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