World Scientific Research Journal (WSRJ) ISSN: 2472-3703
www.wsr-j.org

Research on the impact of Internet finance on the performance of commercial Banks.

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Abstract: under the call of the "Internet plus" action plan, the rapid development of Internet finance in one of the Internet financial models is also attracting the attention of the financial industry. In order to explore the Internet financial impact on the Performance of commercial bank, this article is based on "market Structure - market Conduct - market Performance" theory (Structure - Conduct - Performance, S - C - P theory), using the Internet in 2013-2017 financial scale and yield data of commercial bank Performance research hypotheses are put forward. The research shows that Internet financial management has been stable for nearly two years, and the financial income of Banks has increased the performance of commercial Banks, which is positively correlated. The average return rate of Internet is negatively correlated to the performance of commercial Banks, which has a negative impact on the performance of commercial Banks. Finally, it puts forward the countermeasures of commercial Banks to deal with Internet finance.
Keywords: Internet; Financial management; Commercial Banks; Performance; advice.

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1. INTRODUCTION

In June 2013, after alibaba launched yu 'ebao, its high yield and high liquidity were loved and sought after by investors. Under the leadership of yu 'ebao, the "baby" wealth management products in Internet finance are hot, which gradually changes the public's financial mode and concept. There are four types of the baby products issued by the fund company. The fund is sold by the company of income treasure, piggy bank and so on. Internet companies and other operating agencies use their third party to pay for the hair style of WeChat, baidu bao and jingdong small Treasury. In addition, traditional Banks have also launched their own baby wealth management products under the pressure of Internet financing, such as people's livelihood, ping an ying and salary treasure. At the end of the first quarter of 2017, the total size of the 69 money funds connected to 83 Internet babies was 18,520.26 billion yuan, according to data from rong360. Internet banking offer the bank deposit a lot of money, forcing commercial Banks and other financial institutions to transform, involved in the Internet market, give Banks represented by the traditional financial institutions has brought opportunities and challenges. Based on this background, this paper studies the impact of Internet financing on

the performance of commercial Banks, and puts forward targeted Suggestions on the development of commercial Banks.

2. Literature review

The first is about Internet wealth management products. Since Internet financial products are emerging in recent years, there are relatively few relevant literatures, so we start from Internet finance. Xie ping, domestic scholars Zou Chuanwei (2012) argue that represented by the Internet in the modern information technology, especially mobile payments, social networks, search engines, and cloud computing is different from indirect financing of commercial bank, it is also different from direct financing capital market's third financial financing model. The second from the perspective of commercial bank management, Yuan Bo, yong-gang li, younglab dragon (2013) represented by the third party payment of Internet financial weaken the function of bank payment, makes the Banks face channels, capital, information, customer relationship risk; At the same time, the development of Internet finance has blurred the financial boundary. Internet companies and Banks have stepped into cross-border cooperation, and the online and offline integration has developed, and finance and commerce have been gradually integrated. In addition, the development of Internet technology will enable Banks to realize intelligence in channel access, operation process, customer management, provision of products and management decisions. The third is the impact of Internet finance on commercial Banks. Gong zhe (2015) pointed out that the success of Internet wealth management products is not only based on internal factors, but also the characteristics of products, and also benefits from external factors such as tight bank liquidity and loose supervision policies. On the basis of further analysis, it is concluded that the rapid development of Internet products makes bank asset management business, including financial business, deposits and channels and clients are challenged. According to the comparative analysis of the advantages and disadvantages of yu 'ebao and bank wealth management products, the comparison and analysis of the advantages and disadvantages of yu 'ebao and the bank financial products of bank of China (2015) concluded that yu 'ebao is stronger than commercial Banks' financial products in terms of liquidity. It also shows certain advantages in terms of scale. Banks have an absolute advantage in risk, legitimacy and profitability. Therefore, yu 'ebao has a short-term impact on the short-term financial products of commercial Banks, while the long-term impact remains to be seen.
From the above research review, it can be found that there are few theoretical definitions of Internet financial products. The research on yu 'ebao products is very small, and there are few studies on the impact of Internet wealth management products on the performance of commercial Banks. Then, regression analysis method, this paper USES panel selection indices for commercial Banks operating performance is as explained variable, the scale of the Internet financial product, Internet financial product yield as explanatory variables, the quarter cost income ratio, total assets and the end of the broad money as control variables to study the influence of the Internet financial management products of commercial Banks business performance.

3. Research design

3.1 Theoretical analysis and research hypotheses.

The influence mechanism of Internet finance on the performance of commercial Banks can be explained by the theory of "market structure -- manufacturer's behavior -- market performance" (s-c-p theory). The theoretical framework is mainly argues that in a market, market structure, market conduct and market performance, there is a one-way causal relationship between the market structure determines the market conduct, firm behavior and performance play a decisive role to the market. Therefore, once the market structure changes, the behavior of the manufacturer will be affected by the market structure and change, and finally the market performance will be changed accordingly. In this study, the development of Internet financing market has brought great impact on financial market results, especially for commercial Banks and other financial institutions, which has influenced the performance of commercial Banks.

Internet banking in recent years the development of strong, greatly changed the whole financial product market structure, thus bypass the traditional commercial bank capital, customer main resources, such as the banking system gradually broke the commercial Banks in the financial market monopoly, which affect the performance of commercial Banks. One of the important indicators of Internet financing is the scale of Internet financing. Chen Cong (2015) and lesser (2016) of the empirical research shows that Internet financial scale for commercial Banks operating performance and profitability, and Internet financial scale. This reduces the market share of commercial Banks and loses their competitiveness. Commercial bank financial management under the sweeping tide over the Internet has made some countermeasures, such as commercial Banks are in the Internet platform launched its own baby products, improve customer expected return, rich products. Therefore, the author assumes that the scale of Internet financing affects the performance of commercial Banks and is negatively correlated.

Hypothesis 1: the size of Internet money will affect the performance of commercial Banks, and it is negatively correlated.

In the past two years, the Internet financial market has been stable, and the customers have paid more attention to the size of Internet financial return. One of the important factors that clients can refer to in investment funds, baby classes and other wealth management products is the yield, which can make the customers more intuitive and clear about the benefits of the current products. The yield of financial products can be divided into two types: expected return and real rate of return. This paper focuses on analyzing the impact of Internet on bank performance, and therefore chooses the real rate of return. Gu wenqing (2016) showed that the interest rate of yu 'ebao was raised, and the amount of personal deposits of Banks would be reduced. Yu 'ebao partially shred the bank's deposits. For each unit of the yu 'ebao yield, large commercial bank deposits fell 11441.006 billion yuan. Lu min (2014) also believes that in the long term, yu 'ebao has compressed the profits of Banks by promoting interest rate liberalization. It is generally believed that the Internet financial return rate is negatively correlated with the performance of commercial Banks.

Hypothesis 2: the yield of Internet financing will affect the performance of commercial Banks, and it is negatively correlated.

3.2 Sample selection

In this paper, the selection of 25 listed Banks during the period of 2013 q1 to 2017 q1 quarterly data as sample, including five state-owned commercial Banks are the bank of China, agricultural bank, industrial and commercial bank, construction bank, bank of communications. The 20 joint-stock commercial Banks include pudong development bank, ping an bank and minsheng bank. The data on the bank's indicators came from the a-share quarterly. The scale of Internet financing is replaced by the size of Internet funds due to insufficient data. The Internet fund scale and the average yield data of Internet finance are derived from rong360. Data processing and regression testing were performed using Eviews8.0.

3.3 Research variables

3.3.1 Interpreted variables.

Quarterly return on capital (ROA). Generally speaking, measures of the performance of Banks are usually measured in terms of return on equity (ROE), return on capital (ROA) and net interest rate. Consider the representativeness and availability of data. Based on the practice of shen wei (2015) and gao xiaoya (2016), this paper selects the index capital yield (ROA) which can represent the performance of bank operation as the dependent variable. The rate of return on capital (ROA) is equal to the ratio of the net profit to the total assets of the quarter, reflecting the bank's ability to conduct business performance.

3.3.2 Explanatory variables.

Internet money fund scale (HLJ). Internet financial products to the size of the rapid growth of bank deposit business, financial business has caused a certain impact, at the same time bank launched Internet treasure the essence of the products is to transform itself a deposit for the higher cost of products, increase the bank's cost of capital. So far, the Internet financial product is mainly composed of Internet money funds, therefore, in order to study the scale of the Internet financial product and the variable relationship between the bank's performance, this paper select the fund size of logarithmic measure Internet fund size.

Internet financial average return rate (QRNH). Gu Wenqing 7 (2016) using the annualized yield research the relationship between Internet financial management of commercial bank deposit, it is concluded that the Internet financial product in the short term to absorb a large number of demand deposits, had a significant impact on commercial Banks. Internet wealth management products 7 days annualized return is a very representative index, the clients of the fund market often use this index to choose investment funds.

3.3.3 Control variables.

The logarithm of cost income ratio (CIR). The cost income ratio (CIR) is equal to the ratio of the business and management fee to the operating income of the quarter. The cost income ratio is one of the indicators to measure the profitability of the bank. The lower the input cost of the bank, the better the corresponding bank operation performance. Therefore, it is better to reflect

the influence of Internet wealth management products on the performance of bank management by comparing the cost income ratio as the control variable.

The logarithm of total assets at the end of the quarter (LNNA). Generally speaking, Banks with larger assets have higher credit availability and competitive advantages, so their operating performance is better. Therefore, this paper selects the logarithm of total assets in the end of the quarter as the control variable.

The logarithm of the generalized monetary quantity (LM2). Taking the logarithm of the broad money supply as the control variable is mainly considered from the macroscopic effect. Commercial Banks have the function of credit creation, which can derive deposits through multiplier effect and indirectly affect the operation and performance of Banks.

3.4 Model construction

Based on hypothesis 1 and 2, the model is established to study the relationship between the Internet financing scale of explanatory variables and the average return of Internet financial management on the performance of the commercial Banks that are interpreted.

ROAi, t = + 1 hlji qrnhi t + 2, + t3CIRi, t + 4 lnnai, t + 5 lm2i, t

Among them, ROAi,t represents the return on assets of the ith bank's t period. The sample range is from 2014Q1 to 2017Q1, so 1 is less than or equal to 13. We have 25 Banks, so 1 is less than or equal to 25. It's the intercept term. The other variables in the model are the amount of Internet financing, the average return rate, the logarithm of the cost income ratio in the quarter, the logarithm of the total assets of the end of the quarter, and the logarithm of the generalized monetary quantity.

4. Empirical analysis

4.1 Stability test.

Use Eviews8.0 to test all variables in a stationary test, which is the unit root test. The final test results, as shown in table 4.1, can be found that there is a non-stationary sequence between the variables. However, the single integer order of the independent variable is higher than the single integer order of the dependent variable, so the co-integration test can be performed.

variable	The differential order	LLC	LLC	ADF/T	ADF /P
ROA	0	-9.45491	0.0000	79.0247	0.0000
HLJ	0	-5.03180	0.0000	28.9903	0.0001
QRNH	1	-5.58136	0.0000	32.9956	0.0074
LNNA	1	-8.60920	0.0000	56.8898	0.0000
CIR	1	-8.12926	0.0000	56.2084	0.0000
M2	0	-6.12844	0.0000	44.6539	0.0002

Second, the panel data is co-integrated test. The test results are as shown in the table, and the P value is less than 0.05. Therefore, through co-integration test, the null hypothesis is rejected. That is, there is a cointegration relationship between the variables.

Method	Test hypotheses	Statistics	P
Kao	HO:p=1	ADF	0.0000 （-4.280609）

4.2 Regression analysis

Since the value of F statistic is less than the critical value of the significance level, the original hypothesis is accepted, and the mixed data model is more suitable. The results of panel data regression are as follows:

Variable	Coefficent	t-Statistic	Prob.
C	-38.50381	-1.078244	0.2836
HLJ	0.638993	2.215029	0.0291
QRNH	-12.77025	-4.726582	0.0000
LNNA	12.30948	1.630679	0.1062
CIR	-11.35080	-1.433813	0.1548
M2	-3.794446	-5.053707	0.0000
R-squared	0.789199	F-Statistic	73.37857
Adjusted R-squared	0.778444	Prob(F-Statistic)	0.000000

Regression analysis:

The impact of the Internet money fund (HLJ) on asset yields (ROA). According to the regression results of the model, the P value corresponding to the t statistic of the variable coefficient is 0.0291, indicating that it has passed the significance test. The variable coefficient is 0.638993, indicating that the scale of Internet financing is positively correlated with the return on assets. This result does not accord with assumption 1, the reason may be as follows: in the beginning in 2013, Internet banking has developed rapidly, but also not to be outdone, commercial Banks in the Internet financial management under the stimulus of sell like hot cakes, fierce competition between the parties. Commercial Banks such as the high heat gains of the financial product push products, moreover to prevent capital outflows, for Internet financial product application channel limits, in 2016, the Internet banking new born babies less and less, the market into the saturation period, growth has begun to slow, gradually reduce the baby products attractive to investors. Most of the former money funds are known as large and medium-sized commercial Banks. Therefore, the performance of commercial Banks has increased with the increase of Internet financing scale to some extent.

The average monthly return rate (QRNH) on Internet finance for seven days has an impact on the return on assets (ROA). According to the regression results of the model, the P value corresponding to the t statistic of the variable coefficient is 0.0000, indicating that it has passed the significance test. The variable coefficient is -12.77025, which indicates that the average monthly return of Internet finance is negatively correlated with the return on assets, which is consistent with hypothesis 2. Under normal conditions, when the interest rate of bank benchmark deposit is lowered, it will reduce the enthusiasm of deposits, and the yield of Internet financial management is relatively higher than that of traditional commercial Banks.

Thus, the bank's profitability can be weakened by diverting bank deposits and increasing the cost of bank capital, thus affecting the performance of commercial Banks. The large variable coefficient indicates that Internet financing has taken full advantage of the role of "Internet" in the past two years. The financial attributes have been fully developed and the overall financial management has matured.

In terms of control variables, the logarithm (LNNA) of the total assets of the end of the quarter has an impact on the return on assets (ROA). According to the regression results, the coefficient of variables is not significant, but the coefficient is 12.30948, indicating that the total amount of assets has a great relationship with the bank performance and has a positive promoting effect. Generally, the bigger the total assets and the better the bank performance, the regression results confirm this point.

The impact of cost income ratio (CIR) on return on assets (ROA). According to the regression results, the coefficient of variables is not significant, and the coefficient is -11.35080. It shows that the cost income ratio is negatively correlated with the asset income ratio. The lower the cost income ratio, the higher the income the unit cost can obtain, and the higher the return on assets. It has a significant inhibitory effect on bank performance.

The logarithm of the broad money supply (LM2) affects the return on assets (ROA). According to the regression results, it can be seen that the variable coefficient is significant, so it can be seen that the national macro-control and monetary policy have certain influence on commercial Banks. The coefficient is negative, which may be due to inflation, and the amount of money issued by the monetary authorities to the bank is small.

5. Research conclusions and countermeasures.

5.1 Research conclusions

Through empirical analysis of the impact of Internet financing on the performance of Banks, it can be seen intuitively that the scale of Internet financing and financial revenue have caused a certain impact on the performance of commercial Banks. In the case of the hot sale of Internet finance, commercial Banks actively develop online banking products and other financial products, thus suppressing the impact of Internet financing and making bank performance relatively stable. What's more, the high return on bank online financial services makes bank performance and Internet financing positive. Nearly two years the Internet banking and commercial banking finance, the financial market is saturated, the size stability, under the condition of financial income has become a key factors affecting the performance of Banks, Internet banking yield is higher, the greater the effect on the performance of commercial Banks. The main impact on Banks is to show that Banks need to innovate in their own businesses.

5.2 Countermeasures for commercial Banks to deal with Internet financing.

5.2.1 strengthen the application of big data in the financial services of commercial Banks.

In the background of Internet, the application of big data can improve resource utilization to some extent. Commercial Banks can use big data to seek new profit opportunities and improve performance. First, optimize the internal data of the bank, analyze the preferences of some

customers based on existing customer information, and establish a targeted database. Second, expand external data. In addition to its ability to acquire external resources, Banks can choose to collaborate with more authoritative and rich Internet leading companies to promote product innovation. Thirdly, with the analysis ability of big data, the pricing of wealth management products is optimized. Provide support for product design, and match customers and products.

5.2.2 Innovate Internet wealth management products.

With the stability of the Internet financial market, online finance is still the strategic development and innovation of the bank. The bank should combine its own characteristics, give full play to its investment management and risk prevention and control experience, and vigorously innovate wealth management products. First, strengthen the diversification of financial products. The proportion of non-performing assets in Internet financial institutions has increased in recent years. Through the reorganization and treatment of non-performing assets, the risk control model is designed to form new financial products. Second, we will increase consumer banking products. Through the cross-border cooperation of other tertiary industries, such as tourism, through the bank Internet financing, consumers can get the value-added services in various aspects such as discount, travel payment and financial management. Third, take into account the profitability and liquidity of wealth management products. Banks' traditional wealth management products are not redeemable and illiquid before maturity. Therefore, financial products can be transferred through innovative financial products, and the "steady life" of wealth management products can be realized.

5.2.3 Simplify business processes and improve efficiency.

Traditional banking transactions mainly rely on physical branches. Customers have to wait longer and waste a lot of time while doing business. Under the background of Internet finance, customers are more inclined to spend money on Internet finance and save a lot of time while enjoying the actual experience of products. So, commercial Banks should be in the business process should be changed in the past too much emphasis on the internal system, simplify the procedures of the business process cumbersome, focus on customer experience, improve service quality, improve the efficiency of business to deal with.

5.2.4 Increase business growth in the intermediate business of force development.

Intermediary business is the business bank is entrusted by the client to charge fees, collection and other matters to collect fees. Bank middle business, do not need to take up their own money, so the business risk and capital, can be developed, such as the development of exchange business, credit business, trust business and bank card business, Banks can through the middle precipitation deposits, fees, to increase our business. At present, China's commercial bank intermediary business is still in the initial stage, small scale. In terms of intermediate business income the proportion of total revenue, in the first half of 2011 the five big state-owned commercial bank middle business income which accounts for about 20%, average revenue at present domestic banking institutions accounted for most of the intermediary business in more than 20% less than 20%, while growth trend year by year, but the development is slow,

compared with western Banks, the gap is still obvious. The commercial bank of our country has the big development space in intermediary business, should hold well.

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