Can Bank Competition Promote the Export of Small and Micro Enterprises—Based on the Perspective of Offering Fuel in Snowy Weather

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Abstract: Based on the China Micro and Small Enterprise Survey (CMES) and the financial license of the China Bank and Insurance Regulatory Commission, this paper theoretically and empirically analyzes the influence of bank competition on the export of small and micro enterprises and its mechanisms. This study finds that bank competition can promote the export tendency of small and micro enterprises and increase their export volume. This conclusion is still valid after the robustness test and endogenous treatment. Mechanism analysis demonstrates that strengthening bank competition can promote the export of enterprises with higher financing constraints and enterprises with lower productivity, highlighting the function of offering fuel in snowy weather. Higher financial literacy of enterprise organizers can improve the role of bank competition in promoting the export of small and micro enterprises. The heterogeneity analysis shows that bank competition plays a stronger role in the export of enterprises in the eastern and western regions, large-scale enterprises, and enterprises in industrial parks. Therefore, it is of great significance to reasonably strengthen the competition of the bank industry, carry out financial knowledge education among enterprises, and speed up the establishment of industrial parks to promote the export of small and micro enterprises, and ensure steady economic growth.

Keywords: bank competition; small and micro enterprises export; financing constraints; productivity; financial literacy

1. Introduction

Small and micro enterprises are an important driving force in maintaining economic development. Small and micro enterprises play a crucial role in providing jobs, increasing national income, and maintaining economic stability. According to the 2021 Report on Financing Development of China Small and Micro Enterprises, Chinese small and micro enterprises have 138,407 million market entities in 2020, accounting for 96.8%. Small and micro enterprises account for about 60% of the GDP, in terms of the value of final products and services, and more than 50% of tax payments, while also contributing over 70% of employment and technological innovation. The products exported by small and micro enterprises are relatively simple, and their capital capacity and number of customers are also limited. From the establishment stage to the ongoing operation, they often encounter difficulties, such as financing constraints. Moreover, at present, the Sino-US trade war exerts a great impact on domestic exports. Zhu et al. [1] also conduct a questionnaire survey on small and medium-sized enterprises under the impact of the COVID-19 epidemic. They state that the cash vulnerability risk of small and medium-sized enterprises is high, and the development prospect of small and micro enterprises is even worse.

Against this background, where is the way out for the development of small and micro enterprises? Some existing studies proceed from targeted cuts to required reserve ratios [2], enterprises’ improvement of digital capability [3], and the development of digital inclusive finance [4]. The main purpose is to improve the availability of loans for small and
micro enterprises and alleviate the information dilemma and financing difficulties. Bank competition can significantly alleviate information asymmetry, increase capital supply, reduce loan costs, and ease financing constraints for small and micro enterprises, thus facilitating the development of small and micro enterprises.

Existing studies have analyzed the influence of bank competition on enterprise innovation, enterprise productivity, and enterprise financing constraints [5–7]. There are few studies on the export of small and micro enterprises. The marginal contribution of this paper is as follows. First, the influence of bank competition on the export of small and micro enterprises is analyzed theoretically and empirically. Second, from the perspective of financing constraints and productivity, this study finds that bank competition can offer fuel in snowy weather. Third, it is proven that financial literacy helps the bank industry to compete and, thus, improve the export of small and micro enterprises.

The following paper is organized as follows. The second chapter is the theoretical analysis. The third chapter is research design. The fourth chapter is empirical analysis, and the fifth chapter is conclusions and suggestions.

2. Theoretical Analysis

How to effectively promote the export of enterprises has long been a concern of the government and scholars. Many studies have been conducted to analyze the influencing factors of enterprises’ export, such as financial product innovation [8], import of intermediate products [9], Internet, food, and drink expenses [10], financial knowledge of the owners, “The Belt and Road Initiative” [11], digital transformation [3], digital inclusive finance [4], etc. Regarding the macro and micro impacts of bank competition, there have been various studies, such as promoting enterprises’ innovation [5], improving enterprises’ profitability and productivity [6], easing enterprises’ debt financing costs and financing constraints [7], amplifying the role of monetary policy on banks’ risk-taking [12], and influencing household financial inclusion [13]. There is an immense literature in the context of bank efficiency and stability, but this paper analyzed the relationship between bank competition on the export of small enterprises, so this paper cannot be used in a balanced model.

The impact of bank competition on financial tolerance is multi-dimensional and comprehensive. Banking competition is a necessary condition for the effective operation of the banking system and plays a role in resource allocation. In the free selected financial market, competition can provide the maximum amount of credit with the lowest cost to achieve the most reasonable allocation of resources. The fierce competition between banks has prompted banks to reduce corporate financing constraints and financing costs, and the success rate of loan applications for enterprises and individuals will also increase [14].

Secondly, according to the theory of competition strategy, the core goal and direct way of corporate competition is competing with competitors for customers. With the intensification of the banking industry competition, banks may attract customers through reducing interest rates. Competition will bring greater performance pressure to banks, and banks will become more and more intense around the competition for customers. The customer competition effect under bank competition has also prompted banks to reduce the contact and negotiations of customers with other competitive banks, increase the financial service period provided by the bank, avoid “bargaining” between banks and customers, and improve the bargaining ability of customers’ financial services costs, and reduce the cost of financial services.

Finally, the bank branch is important for bank competition, and it is also an important carrier for banks to carry out business. Bank competition promotes banks to establish branches, open up new customers, increase banking services, improve the penetration capabilities of financial services, and further improve financial inclusiveness.

Some studies use the database of China’s industrial enterprises and the data of bank branch expansion. They find that bank competition can promote enterprises’ export tendencies and export volume and DVAR [11,15]. However, there are few studies on the export of small and micro enterprises and even fewer studies on the influencing mechanism.
This paper holds that the channels through which bank competition affects the export of small and micro enterprises mainly lie in the effects of easing financing constraints and increasing productivity. Bank competition has the function of financial inclusion [16], and it is easier to provide financial support to vulnerable groups in the market. A large number of studies show that bank competition plays a crucial role in the regulation of credit resources. On the one hand, intensified competition in the bank industry can improve the total credit supply of banks, give full play to the market mechanism, and reduce the financing cost of enterprises [17,18]. On the other hand, information asymmetry between banks and enterprises hinders enterprises from obtaining loan resources from banks. Intensified competition in the bank industry can promote all parties to dig deep into market information, compete for high-quality customer resources, and significantly reduce the financing constraints of enterprises [7]. Competition in the bank industry can greatly promote enterprises to absorb employment and increase the total fixed assets of enterprises, which helps to improve the profitability and productivity of enterprises [6]. However, when enterprises have high growth ability, their dependence on external funds will be relatively low. Therefore, this paper holds that bank competition is conducive to promoting the export of enterprises with low productivity and enterprises with financing constraints. Accordingly, the following hypothesis is put forward:

**Hypothesis 1 (H1).** *Bank competition can offer fuel in snowy weather, promoting the export of small and micro enterprises.*

Su and Deng [16] concluded that bank competition can significantly improve residents’ financial knowledge level, and the effect is more prominent among residents with lower education level. The organizers and operators of small and micro enterprises are also the decision-makers. When enterprise organizers have high financial literacy, they can better identify the financial products launched by banks. Thus, they can also perceive innovative financial products in time and benefit from them. Li [12] found that improving the financial knowledge of owners of small and micro enterprises can alleviate the financing constraints confronted by enterprises and promote their export. Accordingly, the following hypothesis is put forward:

**Hypothesis 2 (H2).** *The financial literacy of enterprises can improve the role of bank competition in promoting the export of small and micro enterprises.*

### 3. Research Design

#### 3.1. Sample Data

This paper uses three sets of data for research. First, the China Micro and Small Enterprise Survey (CMES), published in 2015, is employed to analyze the export situation and enterprise characteristics of small and micro enterprises. The database contains information of 5479 small and micro enterprises. As individual industrial and commercial households do not have the right to import and export, the research object of this paper is manufacturing enterprises. After cleaning the missing data of the key variables (export volume, income, etc.), a total of 1101 small and micro manufacturing enterprises are obtained. Second, with the license information of national financial institutions issued on the official website of China bank and Insurance Regulatory Commission, all the branch information of financial institutions, such as commercial banks, joint-stock commercial banks, foreign banks, and city commercial banks, can be extracted. According to the records of the establishment and cancellation of the institutions on the official website, the number of bank branches in prefecture-level cities in different years is sorted out manually, and the competition index of the bank industry is calculated accordingly. Finally, the corresponding macroscopic control variables are obtained according to China Statistical Yearbook to control the macroscopic factors that cannot be observed.
3.2. Definition of Variables

(1) Explained variable. For the export of small and micro enterprises, this paper refers to the practices of Zhang et al. [4] and chooses the logarithm of the export value of small and micro enterprises (lnve) and whether there is export of small and micro enterprises (export) as the explained variables, using the data from CMES database.

(2) Core explanatory variable. For bank competition (hhi), this paper refers to the practices of Cai and Dong [19] and uses the number of branches of commercial banks in prefecture-level cities to construct the Herfindal index (hhi). The specific calculation formula is: 
\[ hhi = \sum_{i=1}^{N} S_i^2, \]
where \( S \) is the share of commercial banks in the city. Among them, hhi represents the reverse index of competition degree, and its value ranges from 0 to 1. The closer to 1, the higher the concentration of the bank industry, and the lower the degree of competition. The closer to 0, the lower the concentration of the bank industry and the higher the degree of competition.

(3) Mechanism variable. For the financing constraint (sa), this paper measures it according to the algorithm of financing constraint index SA, namely \( SA = -0.737 \times \text{size} + 0.043 \times \text{size}^2 - 0.04 \times \text{age} \). According to the median of financing constraints, it can be divided into high financing constraints and low financing constraints. For enterprise productivity (tfp), this paper refers to the practice of Zhang et al. [4] and uses SFA to calculate enterprise productivity because the data in this paper are cross-sectional data. For financial literacy (fl), this paper defines it according to the questionnaire CMES, “Have you ever been exposed to economic or financial courses (including temporary training)?” According to the corresponding data, high financial literacy is defined as having been exposed to the corresponding courses, and it is assigned to 1, while others are 0.

(4) Control variables. Referring to the practice of Gan et al. [20], the control variables at the enterprise level include enterprise size (size), which is measured by the logarithm value of the total assets of the enterprise, enterprise age (age), which is calculated according to the number of years the enterprise has been in operation, education level of employees (ee), which is measured by the cultural level of employees, number of employees (ne), which is measured by adding one to the logarithmic value of the total number of employees in the current enterprise, and administrative entertainment expense (exp), which is measured by adding one to the logarithm of entertainment expense of small and micro enterprises in the year of investigation. The control variables at the provincial level include per capita GDP (pgdp), which is measured by the logarithmic value of regional per capita GDP, local economic growth rate (gdpg), which is expressed by GDP growth rate, and financial service level (fin_r), which is measured by the ratio of employees in the financial industry to the number of total employed people.

The descriptive results of the main variables are shown in Table 1 below. Among them, about 25.4% of small and micro enterprises in the manufacturing industry have engaged in export, and the average value of bank competition is 0.07. This indicates that the bank industry in various regions has a high level of competition, suggesting that it may provide support for small and micro enterprises to alleviate financing problems. In addition, nearly 14% of enterprise organizers have been exposed to economic or financial courses.
Table 1. Descriptive statistics.

| Variable | Sample Size | Average Value | Standard Deviation | Minimum Value | Maximum Value |
|----------|-------------|---------------|--------------------|---------------|---------------|
| lnve     | 1101        | 3.86          | 6.67               | 0             | 22.31         |
| export   | 1101        | 0.25          | 0.44               | 0             | 1             |
| hhi      | 1101        | 0.07          | 0.02               | 0.05          | 0.16          |
| sa       | 1101        | 0.50          | 0.50               | 0             | 1             |
| fl       | 1101        | 0.14          | 0.35               | 0             | 1             |
| size     | 1101        | 15.40         | 2.10               | 2.197         | 20.72         |
| age      | 1101        | 9.60          | 7.99               | 0             | 55            |
| ee       | 1101        | 2.16          | 1.66               | 0             | 9             |
| ne       | 1101        | 3.47          | 1.17               | 0             | 6.69          |
| exp      | 1101        | 6.95          | 5.24               | 0             | 15.20         |
| pgdp     | 1101        | 0.09          | 0.03               | 0.005         | 0.21          |
| gdp      | 1101        | 0.03          | 0.01               | 0.02          | 0.06          |

3.3. Empirical Model

Referring to the research of Zhang et al. [4], this paper sets the following baseline model (1):

\[ y_{i,c} = \alpha_0 + \alpha_1 hhi_{i,c} + a_2 controls_{i,c} + \theta_k + \tau_p + \varepsilon_{i,c} \]  \( (1) \)

Among them, subscripts \( i, c, k, \) and \( p \) represent the enterprise identification variable, province identification variable, industry, and nature of the enterprise, respectively. \( y \) is the explained variable, including \( \lnve_{i,c} \) and \( \text{export}_{i,c} \), i.e., the export volume of small and micro enterprises and whether small and micro enterprises export. \( hhi \) is the competition level of the bank industry in the region where the enterprise was located in the previous year. Adopting the indicators of the previous year can reduce the endogenous problem caused by reverse causality to some extent; \( controls \) represents the control variables at the enterprise level and the macro level. \( \theta_k \) is the fixed effect of industry. \( \tau_p \) is the fixed effect of enterprise nature. The clustering standard error at the provincial level is adopted; \( \alpha_1 \) is the core coefficient that this paper focuses on. Since \( hhi \) is a reverse index, its coefficient is expected to be negative.

To verify Hypothesis 1, the following, Models (2) and (3), are set in this paper for investigation:

\[ y_{i,c} = \beta_0 + \beta_1 hhi_{i,c} + \beta_2 sa_{i,c} + \beta_3 hhi_{i,c} \ast sa_{i,c} + \beta_4 controls_{i,c} + \theta_k + \tau_p + \varepsilon_{i,c} \]  \( (2) \)

Among them, \( sa \) is the variable of enterprise financing constraint. \( hhi_{i,c} \ast sa_{i,c} \) is the interaction term between bank competition and enterprise financing constraints. \( \beta_3 \) is the core coefficient that this paper focuses on, and its coefficient is expected to be negative. The definitions of other variables are the same as above.

\[ y_{i,c} = \gamma_0 + \gamma_1 hhi_{i,c} + \gamma_2 tfp_{i,c} + \gamma_3 hhi_{i,c} \ast tfp_{i,c} + \gamma_4 controls_{i,c} + \theta_k + \tau_p + \varepsilon_{i,c} \]  \( (3) \)

Among them, \( sa \) is the variable of enterprise financing constraint. \( hhi_{i,c} \ast tfp_{i,c} \) is the interaction term between bank competition and enterprise financing constraints. \( \beta_3 \) is the core coefficient that this paper focuses on, and its coefficient is expected to be negative. The definitions of other variables are the same as above.

In order to verify Hypothesis 2, this paper sets the following, Model (4), for investigation:

\[ y_{i,c} = \delta_0 + \delta_1 hhi_{i,c} + \delta_2 fl_{i,c} + \delta_3 hhi_{i,c} \ast fl_{i,c} + \delta_4 controls_{i,c} + \theta_k + \tau_p + \varepsilon_{i,c} \]  \( (4) \)

Among them, \( fl \) is the variable of enterprise financial literacy. \( hhi_{i,c} \ast fl_{i,c} \) is the interaction term between bank competition and enterprise financial literacy. \( \beta_3 \) is the core coefficient that this paper focuses on, and its coefficient is expected to be negative. The definitions of other variables are the same as above.
4. Empirical Analysis

4.1. Analysis of Baseline Regression Results

Table 2 reports the results of baseline regression. Columns (1) and (4) are the results, in which only the fixed effect of industry and the fixed effect of enterprise nature are included—the control variables are not included. It preliminarily finds that bank competition can promote the export behavior of enterprises. After gradually adding enterprise-level control variables and provincial-level control variables, it can be seen that the significance of the core explanatory variable is relatively stable. Column (3) demonstrates that the coefficient of bank competition (hhi) to export value (lnve) of small and micro enterprises is $-43.153$, which is significant at the level of 5%. This indicates that the improvement of bank competition can significantly increase the export value of small and micro enterprises. Column (6) shows that the coefficient of bank competition (hhi) to the export behavior of small and micro enterprises is $-2.735$, which is also significant at the level of 5%. This indicates that bank competition can also stimulate small and micro enterprises to carry out exporting. The above results suggest that the intensification of bank competition can not only promote small and micro enterprises to participate in exporting, but also increase their export volume, which provides essential empirical evidence to support the development of small and micro enterprises. The baseline objective of this paper has been preliminarily verified. See Table 3 for the best competition level.

The results of the controlled variables show a conclusion close to that of previous studies. Columns (3) and (6) display that the educational level (ee) and the number of employees in the enterprise are both significantly positive at the level of 1%, which indicates that more employees in the enterprise and their higher knowledge and ability can drive the export behavior of small and micro enterprises. Columns (3) and (6) also present that the administrative entertainment expense (exp) is also significantly positive at the level of 1%, suggesting that the investment of small and micro enterprises in administrative entertainment may bring export opportunities to enterprises. The best competition level involves equilibrium issues. The result of one secondary item is added to calculate the best value. With an inflection point of Inve 0.1233 ($= -196.174/(2\times795)$), the export’s turning point 0.12368 ($= -12.329/(2\times49.842)$). That is, when the average banking competition level is about 0.123, it can be close to the optimal export income.

Table 2. Results of the baseline model.

|       | Lnve (1) | (2) | (3) | (4) | (5) | (6) |
|-------|----------|-----|-----|-----|-----|-----|
| hhi   | $-51.487**$ | $-51.744**$ | $-43.153**$ | $-3.256**$ | $-3.317**$ | $-2.735**$ |
|       | ($-2.614$) | ($-2.249$) | ($-2.140$) | ($-2.568$) | ($-2.264$) | ($-2.148$) |
| size  | $-0.192**$ | $-0.189*$  | $-0.014**$ | $-0.189*$  | $-0.014*$  | $-0.189*$  |
|       | ($-2.082$) | ($-1.993$) | ($-1.114$) | ($-1.993$) | ($-1.114$) | ($-1.993$) |
| age   | $-0.017$   | $-0.031$   | $-0.001$   | $-0.001$   | $-0.001$   | $-0.001$   |
|       | ($-0.574$) | ($-1.088$) | ($-0.663$) | ($-1.164$) | ($-0.663$) | ($-1.164$) |
| ee    | $0.558***$ | $0.513***$ | $0.039***$ | $0.036***$ | $0.036***$ | $0.036***$ |
|       | ($4.573$)  | ($4.372$)  | ($4.801$)  | ($4.563$)  | ($4.563$)  | ($4.563$)  |
| ne    | $1.524***$ | $1.622***$ | $0.090***$ | $0.096***$ | $0.096***$ | $0.096***$ |
|       | ($6.587$)  | ($7.279$)  | ($6.445$)  | ($7.197$)  | ($6.445$)  | ($7.197$)  |
| exp   | $0.122***$ | $0.120***$ | $0.008***$ | $0.008***$ | $0.008***$ | $0.008***$ |
|       | ($4.266$)  | ($4.314$)  | ($4.975$)  | ($5.053$)  | ($5.053$)  | ($5.053$)  |
| pgdp  | $0.305**$  | $0.020***$ | $0.020***$ | $0.020***$ | $0.020***$ | $0.020***$ |
|       | ($2.681$)  | ($3.009$)  | ($3.009$)  | ($3.009$)  | ($3.009$)  | ($3.009$)  |
| gdpg  | $2.895$    | $0.172$    | $0.172$    | $0.172$    | $0.172$    | $0.172$    |
|       | ($0.450$)  | ($0.422$)  | ($0.422$)  | ($0.422$)  | ($0.422$)  | ($0.422$)  |
| fin_r | $8.869$    | $0.591$    | $0.591$    | $0.591$    | $0.591$    | $0.591$    |
|       | ($0.335$)  | ($0.359$)  | ($0.359$)  | ($0.359$)  | ($0.359$)  | ($0.359$)  |
| Ind FE | YES       | YES       | YES       | YES       | YES       | YES       |
| Soe FE| YES       | YES       | YES       | YES       | YES       | YES       |
| $N$   | 1101      | 1101      | 1101      | 1101      | 1101      | 1101      |
| $R^2$ | 0.080     | 0.184     | 0.193     | 0.072     | 0.166     | 0.176     |

Note: ***, ** and *, respectively, indicate that the estimated coefficient is significant at the levels of 10%, 5%, and 1%; T value IS in brackets.
Table 3. Results of the quadratic term.

|      | (1)                  | (2)                  |
|------|----------------------|----------------------|
| hhi  | −196.174 ***          | −12.329 ***          |
| hhi2 | 795.000 *** (8.650)   | 49.842 *** (8.651)   |
| size | −0.166 (−1.688)       | −0.012 * (−1.778)    |
| age  | −0.026 (−0.885)       | −0.002 (−0.983)      |
| ee   | 0.512 *** (4.048)     | 0.036 *** (4.319)    |
| ne   | 1.621 *** (7.406)     | 0.096 *** (7.305)    |
| exp  | 0.129 *** (4.598)     | 0.009 *** (5.342)    |
| pgdp | 0.249 *** (4.630)     | 0.017 *** (5.475)    |
| gdp | 4.323 (0.942)         | 0.262 (0.911)        |
| fin_r | 13.913 (1.103)       | 0.907 (1.103)        |
| Ind FE | YES                 | YES                 |
| Soe FE | YES                 | YES                 |
| N | 1101                 | 1101               |
| R² | 0.209                | 0.191              |

Note: *** and *, respectively, indicate that the estimated coefficient is significant at the levels of 1% and 1%; T value IS in brackets.

4.2. Robustness Test

(1) Replace explanatory variable. Referring to the research of Jiang et al. [7], the concentration of the top three banks (cr3) at the provincial level is used to replace bank competition (hhi) for regression. The results are shown in Columns (1) and (2) of Panel A in Table 4. It can be observed that bank competition is both significantly negative at the level of 5% for the export volume (lnve) and export behavior (export) of small and micro enterprises.

Table 4. Results of robustness test.

|                  | Replace Explanatory Variable | Eliminate Outliers |
|------------------|-----------------------------|--------------------|
|                  | (1) Inve                    | (2) export         |
|                  | (3) lnve_w                  | (4) export_w       |
| Panel A          |                             |                    |
| cr3              | −15.281 ** (−2.323)         | −0.968 ** (−2.331) |
| hhi_w            | −15.281 ** (−2.323)         | −0.968 ** (−2.331) |
| Ind FE           | YES                         | YES                |
| Soe FE           | YES                         | YES                |
| N                | 1101                        | 1101               |
| R²               | 0.192                       | 0.175              |
| Panel B          |                             |                    |
|                  | Replace the Measurement Model | Replace the Clustering Range |
|                  | (1) Inve                    | (2) export         |
|                  | (3) lnve                    | (4) export         |
| hhi              | −43.153 ** (−2.433)         | −12.754 ** (−2.435) |
| Ind FE           | YES                         | YES                |
| Soe FE           | YES                         | YES                |
| N                | 1101                        | 1101               |
| R²               | 0.032                       | 0.168              |

Note: *** and **, respectively, indicate that the estimated coefficient is significant at the levels of 10%, and 5%; T value IS in brackets.
Eliminate outliers. Due to the different development levels of small and micro enterprises, extreme values may affect the results of this paper. Therefore, all the variables included in the regression are Winsorized by 1% on both sides. Columns (3) and (4) present the corresponding results. After the Winsorization, bank competition (hhi_w) is still significantly negative at 5%.

(3) Replace the measurement model. Because there are a large number of 0 values in the export volume (lnve) of small and micro enterprises, which shows left-truncated data, the tobit model can be used for regression. Meanwhile, the export behavior (export) of small and micro enterprises is a dummy variable of 0-1, so the probit model can be used for regression. Columns (1) and (2) of Panel B in Table 4 show the corresponding results. It can be seen that the coefficients of bank competition (hhi) are \(-43.153\) and \(-12.754\), which are still significantly negative at the level of 5%.

(4) Replace the clustering range. The clustering range previously used is the province level, where the enterprise is located. Because there are some unobservable errors in the enterprises in the same industry, the clustering standard is changed to the industry level for regression. According to the results of Columns (3) and (4), bank competition (hhi) is significantly negative at the level of 1%, which still promotes the export volume and export behavior of small and micro enterprises. Based on the above results, it can be concluded that the conclusion of this paper is robust.

(5) Endogenous treatment. Although the value of bank competition in the previous year has been used, the reverse causality problem may still exist because the export behavior and high export volume of small and micro enterprises may make banks strengthen business competition and encourage more banks to enter and expand. In addition, even if the two-way fixed effect model is employed, there may still be missing variables and measurement errors that have not yet been observed. Therefore, this paper adopts the instrumental variable method to ease the empirical concerns caused by the above problems. The instrumental variable used in this paper is a value representing that bank competition (hhi) lags behind by two periods. There is a correlation between the current period bank competition and the previous period bank competition level. Meanwhile, the Kleibergen-Paap LM value is 3.168, which passes the significance test of 10%, and the Kleibergen-Paap Wald test is significant at the 1% level, indicating that the choice of instrumental variable is reasonable and effective. In Table 5, Columns (1) and (3) are the results of first-stage regression. It demonstrates that the instrumental variable significantly promotes bank competition. At the same time, in Columns (2) and (4), bank competition (hhi) is still significantly negative at the level of 5%, which shows that the core conclusion of this paper is still valid after the endogenous problem is treated by the instrumental variable method.

Table 5. Results of endogenous treatment.

|       | (1) hhi | (2) lnve | (3) hhi | (4) export |
|-------|---------|----------|---------|------------|
| iv    | 0.975 ***  | 0.975 ***  |         |            |
|       | (1047.720) | (1047.720) |         |            |
| hhi   | -42.837 ** | -2.718 **  |         |            |
|       | (-2.133)   | (-2.142)   |         |            |
| Ind FE| YES      | YES       | 1101    | 1101       |
| Soe FE| YES      | YES       | 0.152   | 0.139      |
| N     | 1101     | 1101      | 0.152   | 0.139      |
| R²    |          |           | 0.152   | 0.139      |

Note: *** and **, respectively, indicate that the estimated coefficient is significant at the levels of 10%, and 5%; T value is in brackets.

4.3. Mechanism Analysis

It has been proven that bank competition can promote the export volume of small and micro enterprises and the export probability of small and micro enterprises, so what is the influencing mechanism? The theoretical part has been analyzed. Hypothesis 1 and
Hypothesis 2 have been put forward. Bank competition can promote the export of small and micro enterprises with high financing constraints and low productivity. Moreover, the financial literacy of enterprises can improve the role of bank competition in promoting the export of small and micro enterprises. To verify the hypotheses, this paper adopts Model (2), Model (3), and Model (4) for regression.

When enterprises are faced with financing constraints, their business activities are hindered. In this case, bank competition can alleviate the financing constraints of enterprises. Therefore, Model (2) is firstly used to test Hypothesis 1, and Table 6 shows the results. Columns (1)–(4) show the results of grouping regression, and Columns (5) and (6) are the results of interaction term model. Columns (1) and (2) demonstrate the influences of bank competition on the export of small and micro enterprises with strong financing constraints. Their estimated coefficients are -62.645 and -3.885, both of which are significant at the level of 1%. It indicates that bank competition can significantly promote the export of small and micro enterprises when small and micro enterprises are subject to strong financing constraints. However, bank competition has no significant promoting effect when small and micro enterprises are faced with weak financing constraints. Furthermore, using the interactive item model, the interactive items of bank competition and high financing constraints (hhi*sah) in Columns (5) and (6) are -33.504 and -1.622, respectively. Both are significant at the level of 5%, which also suggests that bank competition can “offer fuel in snowy weather” for enterprises with high financing constraints, thus improving their export.

|                      | High Financing Constraints | Weak Financing Constraints | Interaction Term Test |
|----------------------|----------------------------|----------------------------|-----------------------|
|                      | (1) Inve export            | (2) Inve export            | (3) Inve export       | (4) Inve export       | (5) Inve lnve | (6) Inve lnve |
| hhi                  | -62.645 ***                | -3.885 ***                 | -31.726               | -2.046                | -43.379 *     | -2.754 *     |
|                      | (-3.613)                   | (-3.943)                   | (-1.635)              | (-1.606)              | (-1.912)      | (-1.951)     |
| sah                  | 0.389                      | 0.004                      | (0.599)               | (0.113)               |               |              |
| hhi*sah              | -33.504 **                 | -1.622 **                 | (-2.307)              | (-2.431)              |               |              |
| Ind FE               | YES                       | YES                       | YES                   | YES                   | YES           | YES           |
| Soe FE               | YES                       | YES                       | YES                   | YES                   | YES           | YES           |
| N                    | 548                       | 548                       | 548                   | 548                   | 1101          | 1101          |
| $R^2$                | 0.169                     | 0.152                     | 0.212                 | 0.199                 | 0.194         | 0.176         |

Note: ***, ** and *, respectively, indicate that the estimated coefficient is significant at the levels of 10%, 5%, and 1%; T value is in brackets.

Previous studies have found that enterprises with higher productivity have higher export probability [21]. To explore the possible role of “offering fuel in snowy weather” in bank competition, Model (3) was employed to test Hypothesis 1. Table 7 reports the corresponding results. Columns (1)–(4) show the results of grouping regression. Columns (5) and (6) present the results of the interaction term model. Columns (1) and (2) are the influences of bank competition on the export of small and micro enterprises with low productivity. Their estimated coefficients are -64.647 and -3.895, both of which are significant at the level of 1%. It can be seen that bank competition can significantly promote the export of small and micro enterprises when the productivity of small and micro enterprises is low. However, bank competition has no significant promoting effect when the productivity of small and micro enterprises is high. Furthermore, this paper uses the interactive item model for testing. In Columns (5) and (6), the interactive items of bank competition and low productivity (hhi*tfpl) are -34.054 and -1.859, respectively. Both are significant at the level of 1%, which shows, once again, that bank competition can offer fuel
in snowy weather to enterprises with low productivity, thus improving their export. The above results indicate that Hypothesis 1 is verified.

Table 7. Offer fuel in snowy weather: enterprises with low productivity.

|               | Low Productivity | High Productivity | Interaction Term Test |
|---------------|------------------|-------------------|----------------------|
|               | (1) Inve export  | (2) Inve export   | (3) Inve export      |
| hhi           | −64.647 ***      | −3.895 ***        | −30.302 *            |
|               | (−2.961)         | (−3.203)          | (−1.745)             |
| tfpl          | 3.155 ***        | 0.163 ***         | 5.938                |
|               | (5.938)          | (4.339)           |                      |
| hhi*tfpl      | −34.054 ***      | −1.859 ***        | (−3.465)             |
|               | (−3.465)         | (−3.077)          |                      |
| Ind FE        | YES              | YES               | YES                  |
| Soe FE        | YES              | YES               | YES                  |
| N             | 498              | 498               | 949                  |
| R²            | 0.136            | 0.123             | 0.222                |

Note: *** and *, respectively, indicate that the estimated coefficient is significant at the levels of 10% and 1%; T value is in brackets.

Finally, Model (4) is used to test Hypothesis 2. The corresponding results are reported in Table 8. Columns (1)–(4) show the results of grouping regression. Columns (5) and (6) are the results of the interaction term model. Columns (1) and (2) are the influences of bank competition on the export of small and micro enterprises with high financial literacy. Their estimated coefficients are −68.216 and −4.484, both of which are significant at the level of 1%. It can be seen that bank competition can significantly promote the export of small and micro enterprises when the financial literacy of enterprise organizers is high. However, bank competition has no significant promotion effect when the financial literacy of small and micro enterprise organizers is low. The possible reason is that the higher the financial literacy of enterprise organizers, the more they can accept the influence of various financial products, and the role of bank competition in export will more easily be brought into play. Furthermore, this paper uses the interactive item model for testing. In Columns (5) and (6), the interactive items of bank competition and high financial literacy (hhi*fl) are −28.349 and −2.060, respectively. Both are significant at the level of 5%, indicating that higher financial literacy of enterprises is helpful to the role of bank competition in promoting the export of small and micro enterprises. The above results suggest that Hypothesis 2 is verified.

Table 8. Moderating role of financial literacy.

|               | High Financial Literacy | Low Financial Literacy | Interaction Term Test |
|---------------|-------------------------|------------------------|----------------------|
|               | (1) Inve export         | (2) Inve export        | (3) Inve export      |
| hhi           | −68.216 ***             | −4.484 ***             | −38.011 *            |
|               | (−2.913)                | (−3.082)               | (−1.932)             |
| fl            | 2.320 **                | 0.173 ***              | (2.686)              |
|               | (2.780)                 |                        |                      |
| hhi*fl        | −28.349 **              | −2.060 **              | (−2.696)             |
|               | (−2.741)                |                        |                      |
| Ind FE        | YES                     | YES                    | YES                  |
| Soe FE        | YES                     | YES                    | YES                  |
| N             | 149                     | 149                    | 949                  |
| R²            | 0.186                   | 0.191                  | 0.179                |

Note: *** and *, respectively, indicate that the estimated coefficient is significant at the levels of 10%, 5%, and 1%; T value is in brackets.
4.4. Heterogeneity Analysis

The role of bank competition on the export of small and micro enterprises is influenced by various characteristics of enterprises. To further analyze the role of various factors, this paper makes a sub-sample analysis, according to enterprise location, enterprise location, and whether enterprises have settled in industrial parks or not.

Heterogeneity of location. China has a vast territory, with different economic conditions, distinctive import, and export endowments, as well as varying development levels. Therefore, according to the different locations of enterprises, heterogeneity analysis is carried out. The corresponding estimated results are displayed in Table 9. The results in Columns (1) and (2) demonstrate that the coefficients of bank competition (hhi) to the export of small and micro enterprises located in the eastern region are $-101.064$ and $-6.269$, respectively, both of which are significant at the level of 1%. The reason why the values are higher than the significance level of baseline regression may be that the bank competition level in the eastern region is higher, so it will play a stronger role in promoting the export of small and micro enterprises. Columns (3) and (4) show that the coefficients of bank competition (hhi) for the export of small and micro enterprises in the central region are positive, but not significant, indicating that bank competition does not promote the export of small and micro enterprises in the central region. Columns (5) and (6) present that the coefficients of bank competition (hhi) for the export of small and micro enterprises in the western region are $-12.296$ and $-0.942$, respectively, with significances of 5% and 1%. This indicates that bank competition can improve the export of small and micro enterprises in the western region. Some existing studies have found that “The Belt and Road Initiative” promotes the export quality of enterprises along the route. This paper holds that the possible reason is that the “The Belt and Road Initiative” has brought more export opportunities to enterprises in the western region.

Table 9. Heterogeneity of enterprise location.

|                     | Eastern Region | Central Region | Western Region |
|---------------------|----------------|----------------|----------------|
|                     | (1) lnve hhi   | (2) lnve export| (3) lnve export| (4) lnve export| (5) lnve export| (6) lnve export|
|                     | $-101.064$ *** | $-6.269$ ***   | 52.808         | 3.135          | $-12.296$ **   | $-0.942$ ***   |
|                     | ($-5.956$)     | ($-5.508$)     | (1.725)        | (1.656)        | ($-2.811$)     | ($-4.050$)     |
| Ind FE              | YES            | YES            | YES            | YES            | YES            | YES            |
| Soe FE              | YES            | YES            | YES            | YES            | YES            | YES            |
| N                   | 719            | 719            | 183            | 183            | 195            | 195            |
| $R^2$               | 0.217          | 0.190          | 0.221          | 0.237          | 0.183          | 0.172          |

Note: *** and **, respectively, indicate that the estimated coefficient is significant at the levels of 10%, and 5%; T value IS in brackets.

Heterogeneity of enterprise size. As small and micro enterprises of different sizes may have varying financing constraints and operating capabilities, the influence of bank competition on them may be different. Table 10 reports the grouping regression results of enterprise size. Columns (1) and (2) are the regression results of large-sized enterprises. It can be seen that the coefficients of bank competition (hhi) to the export volume (lnve) and export behavior (export) of large-sized enterprises are $-72.976$ and $-4.554$, respectively. Both of them are significant at the level of 1%, indicating that the promotion effect of bank competition on export is more significant for large-sized small and micro enterprises. The regression results of small-sized enterprises in Columns (3) and (4) suggest that the coefficient of bank competition (hhi) to the export volume (lnve) of small-sized enterprises is $-25.703$, with only a marginal significant effect (T value is $-1.718$). Meanwhile, the bank competition (hhi) has no significant influence on the export behavior (export) of small-sized enterprises. The above results demonstrate that the phenomenon of loan increase brought about by bank competition still primarily flows to large-sized small and micro enterprises.
which cannot fully alleviate the development dilemma caused by the financing constraints of small and micro enterprises.

Table 10. Heterogeneity of enterprise size.

|                | Large Size |          | Small Size |          |
|----------------|------------|----------|------------|----------|
|                | (1) | (2) | (3) | (4) |
| lnve export    | −72.976 *** | −4.554 *** | −25.703 * | −1.657 |
|                | (−3.121) | (−3.370) | (−1.718) | (−1.648) |
| Ind FE         | YES | YES | YES | YES |
| Soe FE         | YES | YES | YES | YES |
| N              | 548  | 548  | 546  | 546  |
| R²             | 0.167 | 0.153 | 0.198 | 0.187 |

Note: *** and *, respectively, indicate that the estimated coefficient is significant at the levels of 10% and 1%; T value is in brackets.

5. Conclusions and Suggestions

This paper uses the China Micro and Small Enterprise Survey Database (CMES) to match the license information of financial institutions in the China bank and Insurance Regulatory Commission. Furthermore, it theoretically and empirically analyzes the impact of bank competition on the export of Chinese small and micro enterprises and profoundly explores its mechanisms and heterogeneity. The results demonstrate that bank competition can significantly promote small and micro enterprises to carry out export activities and increase their export volume. Moreover, it still holds true after the instrumental variable method and the robustness test. The promotion effect is stronger among enterprises in eastern and western regions, large-sized enterprises, and enterprises in industrial parks.
The mechanism analysis shows that the intensified competition in the bank industry can offer fuel in snowy weather to enterprises with higher financing constraints and enterprises with lower productivity, thereby promoting the export of these two types of small and micro enterprises. In addition, when the financial literacy of enterprise organizers is high, the bank competition can better facilitate the export of small and micro enterprises.

The above results provide the following policy suggestions. First, it is necessary to continue to promote reasonable competition in the bank industry. Small and micro enterprises are the backbone of industrial upgrading and employment absorption. The reinforcement of bank competition can stimulate the export of small and micro enterprises, which have the function of offering fuel in snowy weather and promoting their development. Therefore, it is of great significance to rationally allocate the bank structure and orderly layout to make financial resources more efficient and support steady economic growth. Second, it is necessary to enhance the financial literacy of enterprises, accelerate the training of economic knowledge and financial knowledge of small and micro enterprise organizers, and make it easier for small and micro enterprises to obtain financial resources. Third, it is necessary to speed up the construction of industrial parks. Encouraging small and micro enterprises to enter the industrial parks can improve the efficiency of credit allocation, save the land expenditure of enterprises, exert the clustering effect, and boost the growth ability of small and micro enterprises.

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