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European banks in China: An event study analysis

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This paper analyses the impact of accessing Chinese credit market on European banks, as they are the main foreign investors in this market. The impact is assessed in terms of changes in the share prices of European banks following the announcement of operations on the Chinese credit market. Empirical verification is conducted through an event study methodology. The analysis refers to the 2001-2014 period. Results show that the announcement of an operation in China has a positive impact on the value of the European bank itself, albeit limited and with different levels.

Key words: Foreign banks, event study, Chinese credit market.

JEL Code: O5; G21; G14.

INTRODUCTION

Despite the current slowdown in China's economic growth, it has been experiencing remarkable economic growth in recent years. Alongside the "export-oriented" theory on Chinese economic development (Charles and Karouni, 2003; Chiarlone and Amighini, 2007), there have been other interpretations and proposals attempting to trace growth in the banking system, the main support to the country's growth (Boyreau-Debray 2003; Allen et al. 2005; Ferri and Chiarlone, 2007). In this perspective, the study of China's banking system has become increasingly attractive, especially considering the deep reforms that have affected it over the years, marking the transition of a 'mono-banking system' to a more open 'multi-tier model'.

Increasing foreign participation is one of the key trends in Chinese banking system reforms: as a consequence of the conclusion of China's WTO negotiations, since 2001, foreign investors have been permitted to acquire minority ownership stakes in Chinese banks. Entry was limited to joint-stock commercial banks and city banks in major cities. From late 2004 to present, reforms in large state-owned banks gathered speed and the government began to permit higher foreign ownership. Upon accession to WTO, foreign currency business should be allowed without geographic restrictions; within two years of accession, foreign banks should be permitted to provide local currency services to Chinese enterprises; within five years, they should be permitted to provide local currency services to all Chinese

customers; within five years, all non-prudential restrictions regarding the ownership, operation and establishment of foreign banks as well as those concerning their branches and restriction on issuing licenses should be eliminated. These commitments represent a turning point regarding the operation of foreign banks in China: in fact, before this, their action could only be even more limited because of many complex regulatory restrictions. For foreign banks, the activity on the Chinese market could represent a way to offset the competitive pressures in the credit markets of countries of origin.

As part of the gradual encouragement of internationalization processes in the banking sector which started in 2001, this work aims to analyse the impact of accessing the Chinese credit market on European banks, as they are the main investors in this market. The impact is assessed in terms of changes in share prices of European banks following the announcement of operations on the Chinese credit market. The empirical verification used for the study is event study methodology for the study period 2001-2014. This investigation will highlight the possible convenience of investments in Chinese banking market. The originality of the study is that it intends to highlight the impact of access into the Chinese market for investors, especially European banks while the main literature produced to date mainly focuses on the analysis of the effects of internationalization processes on Chinese banks.

Table 1. Main reforms on foreign banks in China

Decree/Notice	Reforms
(Decree No.340 of the State Council of the People's Republic of China on December 20, 2001)	Regulations of the People's Republic of China on Administration of Foreign-funded Financial Institutions
(Public Notice No. 2, October 24, 2003)	Public Notice of the China Banking Regulatory Commission on Further Opening RMB Business to Foreign Financial Institutions
(Order of China Banking Regulatory Commission No.4, 2004)	
Public Notice of the CBRC on Further Opening up China's Banking Industry (December 1, 2004)	Rules for Implementing the Regulation of the People's Republic of China Governing Foreign-funded Financial Institutions
Public Notice of the CBRC on Further Opening up China's Banking Industry (December 5, 2005)	
(Decree of the State Council of the People's Republic of China No. 478, November 2006)	Regulations of the People's Republic of China on Administration of Foreign-funded Banks

Source: China Banking Regulatory Commission

Table 2. Foreign banking establishments in China (as at the end of 2014)

Unit: No. of banks	Foreign banks	Wholly foreign-owned banks	Joint-venture banks	Wholly foreign-owned finance companies	Total
Locally incorporated institutions (LII)	-	38	2	1	41
LII branches and subsidiaries	-	296	3	-	299
Foreign banks' branches	97	-	-	-	97
Sub-branches	16	537	10	-	563
Total	113	871	15	1	1,000

Source: China Banking Regulatory Commission Annual Report (2014)

The presence of foreign banks in China

Since 2001, China has gradually introduced measures to allow the establishment of foreign banks. Table 1 lists the main reforms on foreign banks in China. Today, a foreign bank can establish its presence in China in four main forms: (1) as a *wholly foreign-funded bank*, funded by a foreign bank on its own or jointly with any other foreign financial institution; (2) as a *Chinese-foreign joint venture bank*, jointly funded by a foreign financial institution with a Chinese company or enterprise; (3) a *branch of a foreign bank*; (4) a *representative office* of a foreign bank.

According to CBRC statistics, by the end of 2014, banks from 15 countries and regions established 38 wholly foreign-owned banks (with 296 branches under them), 2 joint-venture banks (with 3 branches under them) and 1 wholly foreign-own finance company; 158 banks from 47 countries and regions established 182 representative office.

35 locally incorporated foreign banks and 62 foreign bank branches were approved to conduct RMB business; 31 locally incorporated banks and 28 foreign bank branches were authorized to operate financial derivatives business; 6 locally incorporated foreign banks were approved to issue RMB financial bonds and 4 locally incorporated foreign banks were authorized to issue credit cards; 3 locally incorporated foreign banks were authorized to operate the businesses of securitization of credit assets. From the geographical point of view, foreign banks are located in major economic centers of China (Beijing, Guangzhou, Shanghai, Tianjin). By the end of 2014, foreign banks maintained presence in 69 cities of 27 provinces; 17.2% of the total operating outlets is located in the North-east, Middle and West of China. Table 2 shows data of foreign banking establishments in China as at the end of 2014.

It is worth a special mention that in 2010, the CBRC issued the "notice on addressing the issues concerning

foreign banks' opening the intra-city sub-branches at areas where export-oriented enterprises are gathered", permitting foreign banks to set up sub-branches in areas where export-oriented enterprises are intensively located. The purpose of the policy was to enable foreign banks to play a more active role in boosting the development of local export activities.

As at end of 2014, the total assets of foreign banking institutions in China increased by 9.16% percent year-on-year to RMB 2.79 trillion (1.62% of the total banking assets in China): after the increase of foreign presence in China's credit market in the years 2006-2008, the phenomenon reported a significant decline starting from 2009 thus affecting this reform. Moreover, the global economic situation requires great caution for international operators.

Foreign banks also act in the Chinese credit market by partnering with local banks: the equity acquisition is regulated on the "Administrative Rules Governing Equity Investment in Chinese Financial Institutions by Overseas Financial Institutions" promulgated on December 8, 2003. The document states that:

"the equity investment proportion of a single overseas financial institution in a Chinese financial institution shall not exceed 20%, and the activities shall be granted by the approval of China Banking Regulatory Commission (CBRC), under its regulation and supervision. Where proportion in a listed Chinese financial institution is equal to or exceeds 25%, the listed Chinese financial institution shall still be treated as a Chinese financial institution by the regulatory authority. Where the combined equity investment proportion of all overseas financial institutions in a non-listed Chinese financial institution is equal to or exceeds 25%, the non-listed Chinese financial institution shall be treated as a foreign-funded financial institution by the regulatory authority".

According to the limits for the acquisition of equity stakes in Chinese banks as established by the percentages mentioned above, this model is defined as "minority shareholder approach".

Compared with other forms, equity acquisition presents some advantages: in the short run, it seems that foreign banks benefit from a good complement of business networks, market information and public relationship, etc. However, in the long run these benefits would seem to be negated by the difficulties in reconciling the ambitions of the partners on controlling the business.

LITERATURE REVIEW

The literature on foreign banks in China is still limited. The most significant contributions were produced after China's acceptance into WTO and analyze of the progressive opening of the banking system to foreign actors and the impact on Chinese banks in terms of economic performance, risk management and corporate governance. Actually, studies have been developed following the announcement, in 2005, of plans for the gradual opening of three major Chinese banks capital (China Construction

Bank, Bank of China, Industrial and Commercial Bank of China) through listing processes and with the participation of foreign investors that is, foreign-local banks partnerships should support the development of Chinese banks (Hansakul 2006) and promote the development of an appropriate credit culture. Empirical results suggest a favorable effect of reforms that reduce state ownership and increase foreign presence (Berger et al., 2007) on the efficiency of Chinese banks to which the enactment of the so-called *New regulations* in 2006 gave further impetus. Liping and Xiaohang (2004) stressed the positive response from the Chinese banking system to the processes of internationalization which prompted local institutions to improve, first of all, the quality of services to customers. The same authors show that these processes have affected nearly all categories of Chinese banks: large state-owned commercial banks (the "*Big Four*"), State-owned commercial banks and city commercial banks. The acquisition of capital has been chosen by some foreign institutions as a possible solution to enter the Chinese market. Compared to the establishment of subsidiaries, the acquisition of shares has, in fact, considerable benefits especially in strategic terms that is, foreign banks have sought to gain a strong position in the Chinese market by establishing their own offices in major cities in China and by partnering with national banks. In the short term, this has a positive effect on intermediaries in China which has widen the range of services offered and available information. In addition, it improves relationships with customers and marketing strategies; it reinforces, besides, the capitalization of Chinese banks. In the long term, however, conflicts may arise between foreign and domestic banks, particularly in the allocation of decision-making powers.

This critical element is also stressed by Domanski (2005) who states that despite the recognized benefits in terms of greater efficiency in the financial sector and better risk management, foreign participation raises important challenges for the target countries due to inconsistency between organizational structures and legal systems of foreign banks acquiring participation and national shareholding. Even Bayraktar and Wang (2004) studied the impact of the entry of foreign banks on the results of national banks and how this is influenced by the interventions of financial liberalization. They point out, inter alia, that the presence of foreign banks has significantly improved the competitiveness of domestic banks in the countries that first opened their stock market. The main result the authors reach is that the degree of openness to the entry of foreign banks varies widely between countries (last position for China). The work contains a section specially devoted to the analysis of the Chinese case, which distinguishes between the situation before and after the entry of the country in the WTO.

The opening to foreign banks is evaluated as a useful measure to improve the banking system in China. Berger et al. (2009) analyzed the efficiency of Chinese banking system in the period 1994-2003 using data relating to

financial and ownership structures for a sample of 38 Chinese banks (266 observations). According to the results, they argue that foreign minority participation carries considerable improvements in efficiency of the system. The authors also seek to identify the best mechanism through which foreign participation could increase the efficiency of Chinese banks. They suggest that the allocation of decision-making powers to representatives of foreign banks may improve the management and corporate culture of Chinese intermediaries. Shen et al. (2009) investigated how foreign bank/investor penetrations influenced local bank performance in China and show that the opening-up policy is correct from a macro-perspective. Zhang and Daly (2011) carried out a series of regressions to analyze the performance effects of various forms of bank ownership including state-owned banks, city commercial banks, rural commercial banks, other commercial banks, foreign banks in China and overseas subsidiaries. Their results indicate that the Big Four state owned commercial banks were less profitable than the other forms of ownership; in terms of overall performance their results indicate that both overseas subsidiaries of Chinese's banks and foreign banks operating within China were highly profitable earning significant returns on assets and in the case of the so called "City banks" the results report a high and positive return on equity. The results also suggest that banks involved in foreign acquisitions out performed banks not involved in foreign acquisitions.

Hasan and Xie (2013) examine the effect of foreign strategic investors on Chinese bank performance. Based on a data set of bank ownership, performance, corporate governance and stock returns from 2003 to 2007, their regression and event study analysis suggest that active involvement of foreign strategic investors in bank management improved the corporate governance model of Chinese banks from a control based model to a market oriented model, and accordingly have promoted bank performance. Avkiran and Zhu (2013) employed the efficient frontier methods of data envelopment analysis (DEA) and stochastic frontier analysis (SFA) to estimate efficiency of Chinese bank production in a study that directly compares locally incorporated foreign banks with domestic banks. Both methods reveal that on average, foreign banks are less efficient than domestic banks, although SFA identifies a stronger contrast between the two cohorts.

They are not yet significant contributions that analyze the impact on investors of entering the Chinese credit market. Many works, however, analyze the impact of announcements of internationalization process on investors', even without specific reference to the Chinese market. A large number of studies investigated the effect of announcements and news on stock returns by following an event-study methodology, raising the issue of market efficiency and hence, the speed and accuracy of the adjustment of stock prices to new public information. The short-term wealth effect of an acquisition is usually

measured using the event study methodology, which measures the abnormal shareholder returns in the period around the announcement date of the acquisition. A judgement on whether the benefits of cross-border banking deals are likely to exceed the costs is difficult. Empirical analysis can help to quantify the issue, although the current empirical literature offers no firm conclusions. Using the event study technique involves some general assumptions: the unpredictability of the events under investigation, the absence of concomitant disturbance effects and the efficiency of financial markets. Some characteristics are widely accepted to influence abnormal returns among which are relative size of target (Moeller et al., 2004); public or private target (Conn et al., 2005) and target country's characteristics (Moeller et al., 2004). A judgement on whether the benefits of cross-border banking deals are likely to exceed the costs is difficult. Empirical analysis can help to quantify the issue, although the current empirical literature offers no firm conclusions. Amihud et al. (2002) analysed international bank mergers and acquisitions in developed and developing countries using stock prices data to test the resulting diversification benefits. They found evidence that for the acquiring bank, the impact on value tends to be negative, but the effect on risk is highly variable. To measure the risk, they compare the ratio of the variance of the acquirer's daily stock returns to the variance of a benchmark series in the year before and after the acquisition. Chari et al. (2004) highlight the specific advantages for developed country firms of targeting firms in emerging markets rather than in other developed countries. The acquiring firm may benefit from having better bargaining power than its emerging market target, allowing it to underpay for its stake in the target firm.

Tschoegl (2003) finds that acquisitions of financial targets in emerging markets may offer greater opportunities than acquisitions of firms in other sectors: an underdeveloped banking system offers greater potential for market growth. It may also allow developed country banks to have a competitive advantage over local banks through greater expertise and financial resources. Soussa and Wheeler (2006) analyse the effects of acquisition only on the acquiring bank. In line with the literature on cross-border banking acquisitions in developed countries, announcements are found to be associated with negative abnormal returns for the acquirer, suggesting that potential downsides such as operational risk, legal and social barriers and political risk are judged by markets to outweigh the potential benefits. Anyway, this effect persists for only one week. Besides, they found that losses in value have been greater during and immediately after the East Asian crisis; the size of the acquisition, the region of the target and whether the target is a bank or non-bank financial institution are found to have no impact. They offer two explanations to the fact that banks still make acquisitions in emerging foreign markets (EFMs) despite the resulting value losses found in their study: the first one is that markets are not perfect, and hence that equity price movements do not reflect the full impact of the acquisition

on future profits; the second one is that there could be a so-called “principal-agent problem”, whereby managers have greater incentives to pursue EFMs acquisitions than stockholders. BIS (2001) reports that the main finding of studies looking at banks’ stock price movements around the time of a merger is that, on average, total stockholder value (ie the combined value of the bidder’s and the target’s stock) is not affected by the announcement of an acquisition. Although, on average, the stock price of the bidder tends to fall, this is offset by an increase in the stock price of the target. Therefore, acquisitions imply a transfer of wealth between the stockholders of the bidder and target banks.

METHODOLOGY

Model specification and sample description

The empirical verification will be focused on evaluating the effects of European banks’ announcements about their business in China and on their own stock price, to highlight the possible convenience of investments in Chinese banking market.

This study was conducted using the event study methodology, with a procedure that is similar to the one described in Soussa and Wheeler (2006), assuming the following specifications.

The estimation window is used to determine the normal behaviour of efficiency for the stock with respect to the index of market or sector. The estimation of the efficiency of the window makes it necessary to define a model of normal behaviour which is done with a regression model. The length of estimation window is 252 trading days (one stock-exchange trading year).

The event type is the announcement of investment in the Chinese banking sector. “Investment in Chinese banking sector” will be both used for shares acquisition in Chinese banks and other ways of establishment in the Chinese banking sector (locally incorporated wholly foreign-funded bank, Chinese-foreign joint venture banks, foreign-funded banks, branch and sub-branch, representative offices).

The observation period was from 2001 to 2014. 2001 was chosen as starting point for the analysis because with the conclusion of China’s WTO negotiations, foreign banks’ entry increased. 2014 was chosen as the last year of analysis due to full data availability. The period was considered significant because it also includes the years following the promulgation of the *New Regulations* in 2006 which gave further impetus to foreign banks.

The event day (day “0”) is either the announcement day itself or the first following trading day in the case that the announcement day itself is not a trading day. The event study is based on a model under which cumulative abnormal returns (CARs) are calculated for the ‘event window’. The abnormal return is defined as the return over and above the expected return, where the latter one is calculated through the stock-exchange trading year prior to

the event window using the market-based model which is estimated daily.

The market model normal returns will be measured in the estimation window and given by:

$$R_{jt} = \alpha_j + \beta_{wj}RB_{wt} + \varepsilon_{jt} \quad (1)$$

where R_{jt} is the return on the European bank; j ’s stock at time; t , t represents one day. α_j is the intercept term for the regression equation of security j . RB_{wt} is the stock market index. β_{wj} coefficient represents the correlation between the individual European bank’s stock index with the market stock indices: It captures the risk of the security with respect to the actual market. ε_{jt} is the error term for security j at time t . The home country’s stock exchange was used as market index, one for each bank.

We will use an Ordinary Least Squares (OLS) regression to calculate the normal returns. Abnormal returns (AR) are calculated as the difference between the actual return of a stock and its expected return, with the latter one measured by the market model that uses a single market index, as described above.

Abnormal returns (AR) for stock j from the announcements will be the residual of equation (1) for each of the days in the event window is thus:

$$AR_{jt} = R_{jt} - (\alpha_j + \beta_{wj}RB_{wt} + \varepsilon_{jt}) \quad (2)$$

Finally, the CAR is calculated as the sum of these abnormal returns for the entire event window:

$$CAR_j = \sum_{t=T-z}^{T+x} AR_{jt} \quad (3)$$

For sampling, the event study included all items that satisfy the following criteria:

- a. the investor is an European bank;
- b. the investment’s announcement is between 2001 and 2014;
- c. the European bank is publicly traded, with available trading price data;
- d. the “target” is in Chinese banking sector.

Data for stock indices were from Data stream database.

Information about announcements were from Dow Jones Factiva and banks’ websites.

Announcements were classified into 5 categories: 1. Acquisition; 2. Expansion in China – General; 3. Expansion in China – Services; 4. Disinvesting in China; 5. Other (residual).

RESULTS

We found 114 announcements from 19 European banks

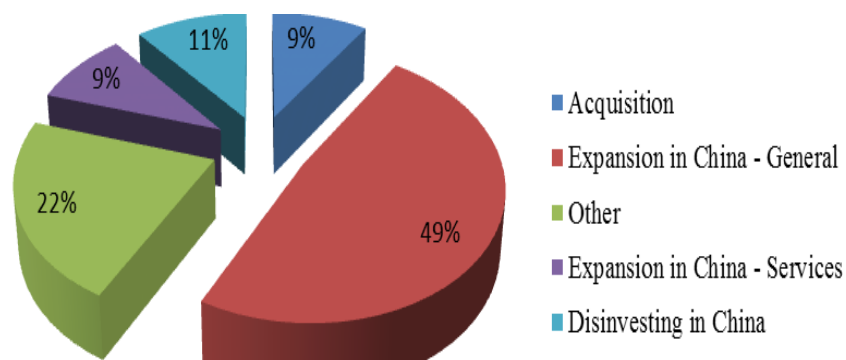


Figure 1: Announcements per type

Source: Authors' elaboration

Table 3. Descriptive statistics on the sample

Item	Value (%)
Average	-6.19
Median	-3.03
Standard deviation	7.28
Sample variance	0.53
Minimum	-21.77
Maximum	18.54

Source: Authors' elaboration.

that satisfied our criteria: however, we have available data to be used in the event study verification for 91 announcements, from 14 European banks (Figure 1).

About half of the total ads is in the category “Expansion in China – General”, followed by number of those included in the residual class which includes a varied series of announcements regarding the future possibility of operation in China by European banks. According to the unavailability of data for some ads that have been mentioned above, the sample used for the event study excluded 3 ads for the class “Expansion in China – General”, 1 for “Disinvesting in China” and 1 for “Other”. Model’s parameters were estimated for each bank by an ordinary least squares regression of the return of the stock *j* in day *t* on the home country’s market return index in day *t*, along an estimation window of 252 days before the event.

Market index return was calculated as the logarithm of the value in a day divided by the value at the previous day. For the verification, ten different event windows have been taken into consideration: (-10, 10), (-5, 5), (-3, 3), (-10, -1), (-5, -1), (-3, -1), (0, 10), (0, 5), (0, 3), (0, 1), where 0 is the event day, or the first working day after if the date of the announcement was not a trading day. Therefore, the cumulative abnormal returns (CAR) for each title in the various event windows and the average CAR of the sample, as the arithmetic average of the individual CARs were calculated. Table 3 presents some descriptive statistics for the sample.

During the observation period, the values of all the shares have, on average, a negative trend with minimum value of -21.17. The sample variance is small. The performance of the national stock market index positively affects the value of the shares in 11 cases out of 14 total (Table 4).

Positive cumulative abnormal returns are, by number, always higher than the cases in which they are negative (Table 5).

Relying on the assumption that individual firm’s abnormal returns are normally distributed, we tested CAR’s significance using the following parametric statistic:

$$t = \frac{\overline{AR}}{S(\overline{AR})} \tag{4}$$

where \overline{AR} is obtained averaging abnormal returns across banks in a common event window and $S(\overline{AR})$ is an estimate of standard deviation of the average abnormal returns. Table 6 presents the results of this test.

The average CAR for any of the event windows considered showed positive values: it can be interpreted as an evidence that the announcement of an operation in China’s banking market has a positive impact on the value of the bank itself, albeit in different levels. However, statistical tests are not always significant.

Therefore, assuming that the regression residuals are normally distributed, a statistical test, dividing AR of each bank per day by the standard error was calculated. Thus, if

Table 4. Estimation of parameters

Bank	Market index	Intercept	Inclination	Standard error
BBVA	IBEX 35	-0.0003	0.1566	0.0143
Bnp Paribas	CAC 40	-0.0037	0.2963	0,0264
Credit Suisse	SMI	-0.0023	-0.1529	0.0231
Commerzbank	DAX	-0.0026	0.4171	0.0034
Deutsche Bank	DAX	0.0001	0.1358	0,0221
HSBC	FTSE 100	0.0032	0.4241	0.0054
Intesa Sanpaolo Bank	FTSE MIB	-0.1678	-0.7016	0.0239
Monte dei Paschi di Siena Bank	FTSE MIB	0.0001	-0.2525	0.0163
Royal Bank of Scotland	FTSE 100	0.0002	2.4431	0.0100
Società generale	CAC 40	-0.0712	0.3957	0.0412
Sparkassen International Development	DAX	0.0007	0.0517	0.0056
Standard Chartered Bank	FTSE 100	0,0007	1.1573	0.0197
UBS	SMI	-0.0007	1.6289	0.0069
Unicredit Bank	FTSE MIB	0.0036	3.2312	0.0035

Source: authors' elaboration.

Table 5. Cumulative Abnormal Returns, CAR per event window

Event window	No. Positive	No. Negative
(-10; 10)	11	3
(-5; 5)	8	6
(-3; 3)	10	4
(-10; 1)	8	6
(-5; 1)	10	4
(-3; -1)	11	3
(0; 10)	8	6
(0; 5)	9	5
(0; 3)	10	4
(0; 1)	11	3

Source: Authors' elaboration.

Table 6. Average Cumulative Abnormal Returns, ACAR per event window

Event window	Average CAR (%)	Test
(-10; 10)	1.0938	4.0923***
(-5; 5)	0.6735	2.5200**
(-3; 3)	0.5073	1.8981*
(-10; 1)	0.4193	1.5688*
(-5; 1)	0.2876	1.0759
(-3; -1)	0.4362	1.6319*
(0; 10)	0.5626	2.1048**
(0; 5)	0.3225	1.2065
(0; 3)	0.1628	0.6090
(0; 1)	0.2681	1.0032

Source: Authors' elaboration. *10%, **5% and 1% significance

the absolute value of the statistical test is greater than 1.96, then the abnormal returns are significant at a confidence level of 5%, which means that the probability that the abnormal returns are random and not significant is less than 5%. If the statistical test is greater than 2.58, the

significance level is 1%. At the individual bank's level, the test just described returned significant values in the cases shown in Table 7. At this level, asymmetrical event windows are more significant than symmetric ones, unlike as in the whole sample.

Table 7. Test on Abnormal Returns, AR of each bank

Bank	Event window	No. significant tests	
		5% level	1% level
Bnp Paribas	(-10; 1)	11	11
Credit Suisse	(-10; 1)	6	3
Monte dei Paschi di Siena Bank	(0; 10)	9	9
Sparkassen International Development	(-10; 1)	9	6
Unicredit bank	(-5; 1)	5	2

Source: Author's elaboration.

Conclusions

With access to the WTO in 2001, China began to introduce a series of measures aimed at expanding the intervention of foreign actors in its credit market. Although the phenomenon of foreign banks in China is still limited, the number of establishments by foreign banks has increased significantly over the years. To date, the main investors are European banks.

For the investor, entering the Chinese market can be a valuable tool to remedy the competition on the domestic market; besides, it can also influence market 'appreciation' for the bank. This, together with the potential for improvement that still remains in the Chinese banking system, makes it interesting to study the phenomenon. The present study aimed to investigate the phenomenon of foreign banks in China, focusing on European banks.

The empirical verification has set itself the objective of analyzing the effect of the announcement of operations in the Chinese market on the stock prices of banks who invest. The analysis was developed using an event study methodology, assuming the following specifications: *a.* the investor is an European bank; *b.* the investment's announcement is between 2001 and 2014; *c.* the European bank is publicly traded, with available trading price data; *d.* the "target" is in Chinese banking sector.

For the verification, ten different event windows were taken into account: (-10, 10), (-5, 5), (-3, 3), (-10, -1), (-5, -1), (-3, -1), (0, 10), (0, 5), (0, 3), (0, 1):

where 0 is the event day or the first working day after it if the date of the announcement was not a trading day. Therefore, the cumulative abnormal returns (CAR) for each title in the various event windows and, thus, the average CAR of the sample, as the arithmetic average of individual CARs were calculated.

Positive cumulative abnormal returns are, by number, always higher than the cases in which they are negative. The average CAR, for any of the event window considered always showed positive values. It can therefore be interpreted as an evidence that the announcement of an operation in China's banking market has a positive impact on the value of the bank itself, albeit in different levels.

CAR was significant in six event windows: (-10; 10), (-5; 5), (-3; 3), (-10; 1), (-3; -1) and (0; 10). However, statistical tests are not always significant, therefore in some cases the

null hypothesis that such ads do not impact on the value of the shares of European banks is satisfied. This result can be explained by the still limited margin of action that foreign banks have in China, so the announcements are not likely to affect the trend of their securities.

Competing interests

The authors declare that they have no competing interests

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