The World Economy

Identifying Determinants of Branch Performances in Agricultural Bank of China: A Spatial Econometric Approach

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1. INTRODUCTION

THE Agricultural Bank of China (ABC) was resurrected in 1979 to support rural economic development by China's government. The predecessor of the ABC was the Agricultural Cooperative Bank in 1951. The ABC accounted for more than 95 per cent of China's rural credits until the early 1990s (Liu and Wu, 2008). In 1993, the government implemented restructuring policy: Decision on Financial Institutional Reforms. It removed the state-owned banks, including the ABC, from policy financing. In 1994, three new policy banks (the Agricultural Development Bank of China, China Development Bank and Export–Import Bank of China) were set up to replace the original state-owned banks. Furthermore, under the Commercial Banking Law of 1995, the ABC began to operate as commercial banks that were responsible for their profits and losses. Loans were to be made on a commercial basis instead of a policy basis. Thus, the ABC has evolved from a state-owned specialised bank to a wholly state-owned commercial bank and subsequently a state-controlled commercial bank.[1] It was then restructured into a joint-stock limited liability company in 2009. It was listed in both Shanghai and Hong Kong Stock Exchanges and became a public shareholding commercial bank in 2010. At the same time, it accepted foreign investment, including Standard Chartered Bank and Seven Group of Australia, as main shareholders. The transformation and privatisation allowed domestic and foreign investment on the bank and has changed the original management goal and nature.

The ABC ranked third in 2013 up from fifth in 2012 by profit in the world according to the annual survey of *The Banker Magazine* in 2012 and 2013. It moved up to 64th in 2013 from 84th in 2012 at the Global 500 (*The Fortune Magazine* in 2012 and 2013). Geographical dimensions and spatial territorial features of China's financial sector have been omitted in the previous literature. Despite the trend of financial globalisation, however, banking services

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[1] The ABC has now become a commercial bank listed in stock exchanges. Its main businesses are less policy-led after two decades of reforms, including the establishment of Agricultural Development Bank of China, replaced the original role of the ABC. The deregulation and the development of local financial system substituted the function of the ABC. Furthermore, according to the statements of the chairman in the ABC interim report 2013: 'We will adhere to the business philosophy of a modern commercial bank. We persist in maximizing our shareholders value and increasing return to shareholders'. Clearly, the ABC is now listed as commercial bank.

occur at regional or local levels, still displaying considerable differences from one to another. This leads to the need for better understanding of spatial territorial performances of the ABC.

The location and performances of bank branches are critical to the success of the banking business. The major ingredients for the location decisions and performances of branch banks are often highly sensitive to socioeconomic, demographical, and behavioural factors. Accordingly, the traditional normative approach alone cannot analyse the excessive location-related data associated with the external factors and cannot appropriately evaluate behavioural criteria for branch banking sites (Min, 1989). The spatial econometric model can be applied to overcome the shortcoming in previous literature related to the evaluation of bank branches' performances (Triki and Maktouf, 2012). Prior studies related to China's banking industry have never taken into account the impacts caused by spatial association effects and factors related to urbanisation.

We are thus motivated to conduct this research and focus the investigation on the ABC due to the data availability. Our analysis constructs a panel of data that combines information on branches' locations, outputs and local economic, industrial and demographical characteristics. The empirical evidence clearly indicates that spatial autocorrelation exists significantly and highlights spatial effects. There would be a bias if the econometric model excluded spatial effects. Thus, it is important to apply spatial econometric methods, which consider the possibility of spatial effects, to obtain more appropriate empirical results.

Thus, this paper is the first research to assess the performances of one of China's largest banks at the branch level with empirical evidence obtained from employing spatial lag and error models and by underlining the impact of urbanisation. Thus, we emphasise and take factors related to urbanisation into account with the application of the spatial econometric method in evaluating bank branches' performances. As a result, we conclude that the performances of the ABC concentrated on economically better-developed regions such as east coastal provinces and municipalities. The growth of service sector and urbanisation are contributing factors to the branch performance of the ABC during the period of this study.

The paper is set up as follows. Section 2 reviews existing literature. In Section 3, we present data adopted, introduce the model applied and describe the estimation procedure. Section 4 discusses the empirical results. We conclude in Section 5.

2. LITERATURE REVIEW

Previous literature identified important factors of evaluating bank performances and determinants of bank branches' performances. There are three main approaches in analysing service industry efficiency: the production, intermediation and the value-added approaches. Berger and Humphrey (1997) regarded that neither the production approach nor the intermediation approach is perfect. Berger and Humphrey (1992) proposed the value-added approach to identify output. In this approach, all liability and asset categories of bank balance sheet are considered to have some output characteristics, to the extent that 'they have substantial valued added, as judged using an external source of operation cost allocation'. Studies of Doyle et al. (1979), Berger et al. (1987), Min (1989), Berg et al. (1991, 1993), Zardkoohi and Kolari (1994), Berger and Humphrey (1997) and Cook et al. (2000) used total loans and deposits to measure outputs for each branch office. In this paper, we adopt the value-added approach and use both loans and deposits as dependent variables to scrutinise performances of different branches.