Agglomeration, Financing and Firm Performance: Evidence from High and New Technology Firms in China

To a large extent, abundant and cheap labor resources have contributed to China's rapid economic development, and a reliance on export manufacturing has helped China to transcend its status as a low-income country and develop a substantial middle-income sector. However, due to rising labor costs, China has gradually lost its competitive advantage, and this situation has led to an economic slowdown and perhaps, to stagnation. In 2007, the World Bank released a report intitled "An East Asian Renaissance: Ideas for Economic Growth" raised the issue of a "middle-income trap" (Gill and Kharas (2008)), and it was suggested that: "middle-income countries have grown less rapidly than either rich or poor countries" (p. 5), which applies to Asian economies such as China, Malaysia, and Thailand (Eichengreen et al. (2011); Kharas and Kohli (2011)). In order to move beyond a "middle-income country" status, it is important to develop the high and new technology (HNT) industry by focusing on high added-value and technological innovation. Therefore, it is necessary to evaluate the development of the HNT industry, which is regarded as an important engine for industrialization in transition economies.

The HNT industry in China is characterized by "policy-directed" industrial agglomeration which takes the form of heterogeneous functional zones established by the Chinese government in 1980s, and is distinct from the market-oriented industrial agglomeration that is observed in western developed countries. In this study, we focused on policy-directed industrial agglomeration in China's coastal regions and investigated its impact on firm financing and firm performance. We examined whether policy-directed industrial agglomeration generates easier access to financing, and we further investigated the role of policy-directed industrial agglomeration in improving firm performance in terms of productivity, profitability, growth, exports, and innovation. With respect to the impact of industrial agglomeration, we examined whether financing methods, such as trade credit and bank loans, represent an efficient means by which to stimulate firm performance. We also focused on evaluating whether industrial agglomeration could intensify the effect of the initial investment on firm financing. In addition, we examined whether an augmentation effect may be found between market-oriented and policy-directed industrial agglomeration in terms of promoting financing and firm performance. This study explored two representative regions, the Yangtze River Delta and the Pearl River Delta. If the pattern of policy-directed agglomeration within these two coastal regions is effective for the development of China's HNT industry, it can be utilized as a prototype for other regions in China and in more developing countries.

Our study demonstrates that policy-directed industrial agglomeration significantly influences access to trade credit and bank loans, and improves firm liquidity in the Yangtze River Delta and the Pearl River Delta region. In addition, policy-directed industrial agglomeration has a positive effect on firm performance in terms of productivity, growth, profitability, exports, and innovation in the Yangtze River Delta and the Pearl River Delta. This can be attributed to the positive externalities associated with industrial agglomeration, such as backward and forward linkages, a thick local labor market, and the information spillover effect. This finding confirms that the market-oriented "New Economic Geography" theory, which was based on western developed countries, is also applicable to China.

Furthermore, the results revealed that both trade credit and bank loans are an effective financing resource and promote firm performance in respect to productivity, growth, and exports in the Yangtze River Delta. However, we cannot find significant empirical evidence that these two financing resources affect the innovative activities of firms. It is possible that the external financing resources obtained by firms are not utilized to support innovative activity. Interestingly, with respect to firms located within functional zones, our results show that the receipt of additional financing resources can encourage better performance and foster innovative activity. This finding implies that industrial agglomeration, when implemented in the form of functional zones, provides HNT firms with an outstanding channel to utilize informal and formal financing and furthermore encourage innovative capabilities.

In addition, our findings suggest that for the same initial investment amount, agglomerated firms could receive more trade credit and gain access to more bank loans, which motivates more entrepreneurs to enter the HNT industry. Our findings also indicate that policy-directed agglomeration has a more significant impact on financing, productivity, exports, and innovation than market-oriented agglomeration. Moreover, the effects that are generated by market-oriented and policy-directed industrial agglomeration mutually reinforce each other, thus mitigating financing constraints and enhancing a firm's profitability. This result suggests that an augmentation effect can be observed between market-oriented and policy-directed agglomeration.

Moreover, we also found that small and early-stage firms are more likely to utilize trade credit, whereas old state-owned firms tend to receive bank loans owing to the lending policy in China. In addition, industrial agglomeration does not affect the innovative activity of state-owned firms. This finding is likely due to the fact that state-owned firms lack innovative consciousness, specialized workers, and advanced technology.

It may be noted that this study focuses solely on coastal regions in China. It would be necessary to investigate the effect of policy-directed industrial agglomeration throughout China as a whole by using a larger dataset of HNT firms. In addition, it would be worthwhile to further explore the mechanisms underlying industrial agglomeration, financing, and firm performance in order to yield additional empirical evidence.

References

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