

# The Exploration of Commercial Banks Serving to Technology Innovation Enterprises

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## Abstract

This paper reviews the commercial banks' previous exploration and attempt in the service of scientific and technological innovation enterprises. And afterwards, as now the government has officially launched policies and delineated pilot institutions and areas to carry out the investment and lending linkage business, this paper discusses the opportunities and challenges associated with commercial banks to engage in the investment and lending linkage business. Finally, this paper puts forward relevant proposals for commercial banks to serve technology innovation enterprises. Through post-event reviews and present discussions, hopefully this paper can provide some references for commercial banks to carry out the investment and linkage business.

## Keywords

Commercial Banks, Technology Innovation Enterprises, Scientific, Technology Banks, Investment, Lending Linkage Business

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## 1. Introduction

Technology innovation enterprises are the main force of technological innovation domestically. Recently, the country is faced with problems as stagnation of economic growth, overcapacity of many traditional industries, and the country has entered into a new period of normality, which is characterized by rapid economic growth substituted by a sustainable moderate growth, ongoing optimization and upgrading of economic structure, and the momentum of economic growth changing from factor and investment to technology innovation. Under this circumstance, implementing innovation-driven development strategies and supporting the development of technology innovation enterprises in order to accelerate the transformation of scientific and technological achievements and to promote the transition of economic growth momentum are particularly important. However, for a long time, financing difficulties have seriously re-

stricted the development of technology innovation enterprises [1]. On one hand, as the main supplier of fund of the domestic financing market, commercial banks dominate by abundance of funds, dot distributions, rich customer and information resources, and their relatively mature and normative management and governance, which makes commercial banks the most suitable party to serve technology innovation enterprises; On the other hand, the conflict of technology innovation enterprises' high-risk feature and commercial banks' prudent-management business philosophy makes it difficult for technology innovation enterprise to raise fund from commercial banks. Fortunately, over the years, many commercial banks have carried out reformations in fields of business philosophy, system construction, and products design and business mode, and some have formed science and technology banks, to try to better serve technology innovation enterprises [2]. Although this process is full of challenges, they have made progress. Nowadays, the implementation of the policy of allowing commercial banks to carry out equity investment to technology innovation enterprises adds return and reform momentum for banks providing business loans to the enterprises. However, this also brings new challenges, which is a long time process and needs for cooperation and promotion of many parties [3]. The first part of this paper first reviews the commercial banks' previous exploration and attempt in the service of scientific and technological innovation enterprises which include reformations of business philosophy, system construction, products design and business mode. Afterwards in the second part, the paper introduces and discusses the investment and lending linkage business that the government has officially put forward in April, especially the opportunities and challenges engaged for the banking entity. Finally, this paper puts forward relevant proposals for commercial banks to better serve the technology innovation enterprises.

## **2. The Exploration of Technology Branches of Commercial Banks**

In January 2009, the China Banking Regulatory Commission approved the establishment of the first two scientific and technology banks of the country, the high-tech branch of Chengdu Bank and the Chengdu branch of the Construction Bank of China, which opens the commercial banks' exploration of specially serving technology innovation enterprises. Scientific and technology banks are banks specially formed to serve small and middle enterprises and they are aimed to provide fund to SMEs in order to promote high-tech research and development, to accelerate high-tech achievements' transformation and industrialization [4]. As technology innovation enterprises are different from traditional enterprises in aspects of business growth, risk, mortgage, credit, etc., the processes, business models, and products design of commercial banks' traditional credit business cannot meet the requirements of serving to the technology innovation venture. A new system that is adjustable for features of technology innovation enterprises is needed to be established. For years, technology branches of several commercial banks, such as Hangzhou Bank and Shanghai Pudong Development Bank of Silicon Valley have innovated in business process, products design, and business models. They have achieved certain results, serving more SMEs and providing more funds to technology innovation enterprises [5].

## 2.1. Institutional Mechanism and Business Process Reformation

In terms of institutional mechanism and business process, banks have implemented a one-line and two-tier system at the head office level, and have developed a set of procedures specifically applicable to the credit business of technology innovation enterprises. These reformations allow the technology branches to distinguish from other traditional sub-branches, setting up separate credit approval standards, approval procedures, and credit management methods, and having different risk tolerance (usually 2% up the usual risk tolerance) and incentive assessment mechanism. In the loan review, technology branches are not only concerned about the cash flow of enterprises like other traditional branches, but also give full consideration to the prospective growth of enterprises and their market prospects, management team and industry experts advice, etc. They have endeavored to relax requirements of corporate credit records, collateral and guarantee, to establish independent customer rating mechanism, to simplify the loan examination and approval process within a certain credit limits so as to make it easier for technology innovation enterprises to get access to bank loans. Simultaneously, in order to lower risk of technology loans, technology branches have established specialized post-loan monitoring, inspection and evaluation methods that are in accordance with the characteristics of technology enterprises; Moreover, they have entered into cooperation with partners like governments, venture capital institutions, guarantee and insurance companies, which helps to reduce information asymmetry and get more comprehensive and timely information of the enterprises. In respect of performance assessment, technology branches are given risk tolerance that is higher than the head office and they have set up different staff assessment mechanism which includes the due diligence rule and the multi-loan performance assessment rule. However, as the existing risk control mechanism cannot meet the requirements of prudent operation of commercial banks, and in practice, it's difficult to define and determine what is due diligence and to break the loan tenure mechanism [6].

## 2.2. Innovative Loan Products

From the aspect of products, technology branches have adjusted term, amount, and methods of pricing, pledge and repayment of technology loans in accordance with the characteristics of technology enterprises. For instance, given the fact that technology innovation enterprises are generally lack of credit records and collateral assets, technology branches expand the scope of collateral and the form of insurance. Innovative loans like policy-based pre-guaranteed loans, intellectual property pledged loans, accounts receivable pledged loans, order loans, warehouse inventory loans, and energy performance contracting loans designed for contract energy companies to use future energy saving proceeds for the repayment of financing, have provided more facilities for technology enterprises to get access to bank loans. However, there still exist many problems and resistance in practice for small and medium technology enterprises to get funds from commercial banks. Innovative products mentioned before are ideal and are still not mature. For example, as at the moment, the country has not established a set of

comprehensive intellectual property assessment and trading system, intellectual property pledging is not smooth [7]. In addition, technology loans are generally priced at favorable rates and are largely dependent on government's loan subsidies in order to cover the higher risk they bear [8]. As presently there are little means for banks to compensate for higher risk of lending to those technology enterprises, they have little incentive to lend to small and medium enterprises.

### 2.3. Business Models

In respect to business model, compared to traditional company loans, technology enterprises loans are more dependent on cooperation with other institutions like governments, venture capital companies, guarantee and insurance companies. Specifically, there mainly five cooperation modes: to sign insurance or guarantee agreements with other partners so as to share risks; to provide loans to eligible venture capital companies which indirectly provide financing support to technology enterprises; to directly lend to technology innovation enterprises that have already get funds from eligible venture capital companies; to loan to technology innovation enterprises which have gotten equity investments from eligible institutions like venture capital and insurance companies, and at the same time to reach agreements with that third institutions to get a certain options or rights so as to share the benefits of enterprise growth; to provide loans to eligible technology enterprises, and meanwhile to make direct equity investment the enterprises by means of overseas affiliated companies [9]. All of these cooperation modes endeavor to gain extra returns so as to make up the higher risk of the technology loans or to share risk with other institutions in order to reduce their own risk exposure. Particularly, the information about the lending enterprise obtained through the equity investment partner reduces the information asymmetry between the bank and enterprise and thus risk of those technology loans, furthermore, return from the cooperating partners' equity investment provides incentives to banks. However, there are still a lot of problems in the practice for technology branches to legalize that profit obtained from partner equity investment as banks are restricted to engage in equity investment as specified by the law of commercial banks.

## 3. The Exploration of Investment and Lending Linkage Business

In April 2016, the China Banking Regulatory Commission, the Ministry of Science and Technology and the People's Bank of China jointly issued the Guiding Opinions on Supporting the Banking Financial Institutions to Promote the Experimental Units of Linking Equity Investment and Business Loan (hereinafter referred to as the "Guiding Opinions"), guiding the banking financial institutions to provide sustained financial support to technology innovation enterprises by combining making loans themselves and making equity investments through their subsidiaries that are licensed to make equity investment, by which way the banking financial institutions can match the credit risk and return from loans they make to small and medium technology innovation enterprises. The "Guiding Opinions" delineated five national innovation demonstration

zones and 10 banking financial institutions as the first batch of loan and equity-investment linkage experimental units, requiring the pilot institutions to effectively increase the total financial supply to technology innovation enterprises and to optimize the financial supply structure [10]. Specifically, the pilot banking institutions are suggested to make technology innovation loans through newly-established technology finance franchise units or special sub-branches, and to make equity investment through the establishment of subsidiaries which have investment function. This new exploration has brought both opportunities and challenges to the pilot commercial banks.

### 3.1. Opportunities

Article 43 of the Commercial Bank Law of the People's Republic of China "regulate that commercial banks shall not engage in trust investment and securities business in the territory of the People's Republic of China, and shall not invest in non-self-use real estate or non-bank financial institutions or enterprises, except that the state regulates [11]. The Guiding Options has break through this restrictions, allowing the experimental banks to directly invest in the enterprises through their investment subsidiaries. Both internal and external risk-sharing mechanisms provide strong support to commercial banks of carrying out investment and lending linkage business. Commercial banks are seeing opportunities to make changes:

- Through this equity investment, banks can share the return of the technology enterprises' growth, partly offset the risk of the business loans to that group, which provide internal credit for banks to make science and technology loans [12].
- In addition, governments and science and technology sector of the experimental area also make efforts to support pilot banks to carry out investment and lending linkage business through the establishment of government compensation fund, awarding technology loans, and building multi-party cooperation platform, etc. The cooperative platform built by the government set up a bridge among commercial banks and other financial institutions, which is beneficial to the banks' integrated development.
- Finally, carrying out the investment and lending linkage business is beneficial to the banks transformation of customers' industry structure and can lay a good foundation for cultivating and developing long-term customers [13].

### 3.2. Challenges

The development of the investment and lending linkage business can lawfully and effectively increase the source of funds for commercial banks to offset the credit risk of loans to small and medium technology innovation enterprises. However, this does not fundamentally change the challenges that commercial banks facing in fields of business concept, process system, product design and business model. What's more, the establishment of investment subsidiaries and the coordination between commercial banks and its investment subsidiaries also bring new challenges to the operation and management of commercial banks. Specifically:

- As the most important financial intermediaries in our country, commercial banks connect the various participating subjects of the society and are particularly important to the stability of the whole financial and economic system and the whole social system. This determines that commercial banks must adhere to the principle of prudent operation. As for the investment subsidiaries, they are essentially venture capital institutions and pursuing high-risk and high-yield investments are their nature. Their aggressive culture forms a sharp contrast to the commercial banks' prudent culture. Therefore, how to set up investment subsidiaries under commercial banks, and how to achieve the in-house organic integration of venture capitals' aggressive culture and the banking sectors' prudent operation and management bring a huge challenge to the pilot commercial banks [14].
- The special nature of the financial industry determines that a strict "firewall" system must be established between the pilot commercial banks and their investment subsidiaries and between their technology credit business and traditional credit business, so as to prevent the risk of improper interest transformation and regulatory arbitrage within the group, and to prevent the risk transmission among different kinds of business, and so on [15].
- Commercial banks carrying out the investment and lending linkage business can take forms of investment after loan, loan after investment, investment and loan synchronization, only loan or only investment and other forms of funding. Then, how to establish their separate project screening mechanisms and an effective information communicating and sharing mechanism, and business linkage mechanism between banking department and investment subsidiaries form another challenge for the pilot banks.
- It takes time for commercial banks to explore in actual operation to determine the effective internal and external risk-sharing and compensation mechanisms, the effective business linkage mechanism, and the effective operation proceeds, etc. This is a long time trial and amendment process, which needs commercial banks to make adjustments in accordance with the actual business development.
- The pilot banks need to have comprehensive staff, which not only have professional knowledge and background of the technology industry, but are familiar with the financial business in order to effectively carry the investment and lending linkage business. However, at the moment, the shortage of compound talents and the long-term talent training period bring enormous challenges to commercial banks [16].

#### **4. Suggestions for Commercial Banks to Serve Technology Innovation Enterprises**

As commercial banks carrying out investment and lending linkage services is a new exploration and a changing process, this need for government and relevant regulatory authorities' support from different aspects.

##### **4.1. Positioning**

Pilot commercial banks carrying out investment and lending linkage business should

adhere to the positioning of indirect financing, focusing on credit business and taking equity investment business as supplement. That is to say investment business can just be implemented corresponded to the lending business. Usually, banks will set whole and separate proportion limit for lending and investment business, for example, a whole proportion of 3:1, a proportion of 2:1 for enterprises in the start-up period or the seeds period, and a proportion of 3:1 for enterprises in the growth period.

#### **4.2. Infrastructure Supporting and Risk Sharing**

Governments and ministries of science and technology and other departments of experimental areas should make efforts to promote the construction of supporting infrastructure for science and technology financial business to develop, to further improve the mechanism construction of asset evaluation, registration of intellectual property rights' transfer, mortgage and pledge, and to accelerate the database construction of technology innovation enterprises [17]. Moreover, governments of experimental areas should set up risk sharing mechanism to pilot banks. For example, it's said that the banking regulatory Bureau of Beijing will assume half of the bad debts that are associated with technology innovation enterprises with an up limit of 10million for a single loan [18].

#### **4.3. Multi-Party Cooperation**

Governments of experimental areas should take on the role of actively promoting the integration of local resources, promoting the cooperation of local pilot commercial banks with government departments, guarantee companies, insurance companies and other institutions, so as to establish an effective multi-stakeholder risk sharing mechanism of technology credit. Then pilot banks can choose and explore their own cooperative mechanism to reduce information asymmetry and risk, for example, only financing enterprises that have obtained financing from venture capitals [19].

#### **4.4. Supervision and Management**

The supervision and management departments should make due diligence to identify problems and difficulties in a timely manner, and continually solve problems to advance the process of technology financing, which includes but not limit to clearing ambiguities found during business development, correcting inapplicable management practices, promoting experiences of successful models, and penalizing any behaviors that are detrimental to market fairness [20].

### **5. Conclusion**

Although our country is still on the way of exploring commercial banks serving the innovative technology enterprises, some typical technology branches have made achievements, like Hangzhou Bank, over the years, they have served thousands of technologies and through cooperating with institutions like venture capitals they have also made profits. A mature and prevailing service will be achieved, and we are just on the road.



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