

## Analysis on innovation incentive policy in China

Xian Feng Hao<sup>1,a\*</sup>, Yun Sun<sup>2,b\*</sup>, Wen Yan Tian<sup>3,c\*</sup>, Zhe Yu Pan<sup>4,d\*</sup>

<sup>1</sup>North China Electric Power University, Beijing, china

<sup>2</sup>North China Electric Power University, Beijing, china

<sup>3</sup>North China Electric Power University, Beijing, china

<sup>4</sup>North China Electric Power University, Beijing, china

<sup>a</sup>haofeng@ncepu.edu.cn, <sup>b</sup>mosusu1026@163.com, <sup>c</sup>437153975@qq.com, <sup>d</sup>1145966838@qq.com

**Keywords:** Innovation incentive policy; Technological innovation; Innovative talents; Technology innovation; Reform

**Abstract.** In the era of knowledge economy, science and technology competition is the core of global competition. Governments have attached great attention to technological innovation and the policy making for innovative talents. technology innovation is the strategic support to improve social productive forces and comprehensive national strength which should be placed in the core of national development and the overall situation. There is an urgent need to introduce advanced technology and talents, establish and perfect the incentive mechanism to enhance the core competitiveness of enterprises. This article makes analyses from the perspective of domestic innovation incentives for technology innovation and talent incentive policy in China. It draws from the successful experiences of foreign innovation incentive policies and practices, and puts forward countermeasures and suggestions for perfecting China's innovation incentives system.

### Introduction

China is devoted to the construction of an innovative country, the eighteenth national congress of the Communist Party of China clearly pointed out in a report that 'technology innovation is the strategic support to improve social productive forces and comprehensive national strength which should be placed in the core of national development and the overall situation.' After years of practice, the domestic innovation incentive system has seen constant improvement of innovation incentives, but it still needs further specification, as many problems remain to be solved.

### Analysis on domestic innovation incentive policy

With the economic transformation and industrial structure adjustment in recent years, China's cost competitive advantage has gradually lost, and the cost strategic development of enterprises is facing severe challenges. Therefore, especially for the central and local governments in formulating and improving the science and technology innovation and personnel innovation policies to give help and support.

**Technology innovation incentive policy (in Beijing, for example).** Science and technology are primary productive forces. Aiming at technological innovation, Beijing has spelled out some relative policies, for example, the introduction of a high-tech financial and taxation system; and according to the principle of "making policy, strengthening the supervision and controlling risk", actively promoting the establishment of risk investment mechanism.

Recently, we came to Beijing for a case study of China's technical innovation incentives, and the following are our findings. On May 6, 2014, the Beijing municipal government released the Beijing Technology Innovation Action Plan (2014-2017), the main contents of which are to give full play to the decisive role of market resources, give better play to the role of the government, constantly improve the ability of independent innovation, promote the application of new technology, so as to

promote the sustainable development of the Chinese capital.

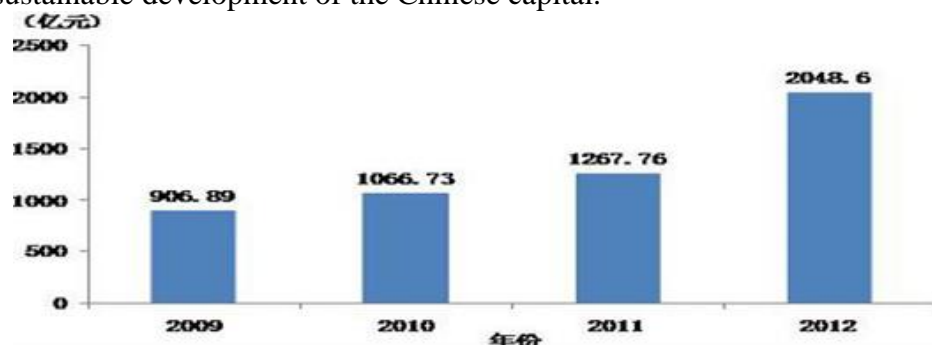


Fig. 1 Growth of technology trading in Beijing 2009-2012

It is plain to see in Figure 1 that the value of technology trading in Beijing more than doubled in only 4 years from 2009 to 2012.

**Innovation and pioneering talents incentive policy.** The key to reaching that goal lies in innovative talents. Nevertheless, there are still problems in the system of talent incentive policy currently in China, such as blind incentive, easily equating incentive to rewarding. Not only employees cannot be motivated, but also side effects will appear. What's more, one of the barriers to limit the ability of company innovation is insufficiency of incentive policy to innovative talents. Aiming at the innovative talents, China has made a series of policies. Analysis is presented in forms as below.

Region	Programme	Details
Nation	schedule name	National one-thousand plan
	Conditions of application	1. Innovative talents: As an equivalent to a professor of experts and scholars in famous universities and research institutes abroad; Professional technological and management talents in well-known cooperation and financial institutions worldwide; Innovative talents who are familiar with relative industry area and international principle with property rights or core technology, full experience of self-employment; Nationally urgent need for other high level innovation.
		2. Pioneering talents Normally a master or Phd degree, not older than 55 years old; gain property rights or leading international technical achievement, which can fill in the domestic blank, industrial development potential; experience of self-employment or being an executive in a well-known corporation, with good ability of management; the main founder of the enterprise and the first shareholder (equity is generally not less than 30%, a company can only be declared an entrepreneurial talent) ;Enterprises set up more than 1 year, 5 years, it has a core technology product in the stage of pilot or industrialization.

	Treatment	1. Planning to bring in 2,000 experts in 5 to 10 years with funding 1 million yuan per person/team 2.Solving problems of the entry and exit, settlement, medical treatment, insurance, taxation, spouse settlement, payment properly.
Beijing	schedule name	Action plan on speeding up the construction of Zhongguancun talents DC(2011-2015)
	Policy content	(1)A one-off reward of 1 million yuan to high level talents selected to 'one-thousand plan' or 'Beijing overseas talents gathering project' (2)For transformation of scientific and technological innovation enterprises, scientific and technological achievements in the form of shares or equity investment proportion of the company relevant technical personnel's a reward. (3)To meet the requirements of current policy enterprises and research institutions, unable to be produced in within the scope of reasonable number or performance cannot meet the need of scientific research, teaching objects, shall be exempted from customs duties and import VAT and consumption tax.
Tianjin	schedule name	Implementation opinions of introduction of thousands of high-level personnel in Tianjin
	Policy content	(1)Issued by the government to the introduction of high-level personnel of one-time subsidies, financing, family allowance and reward money, regarded as the city bonuses, shall be exempted from individual income tax. (2)The introduction of high-level personnel, listed in the state and the city "one thousand plan" entrepreneurial talent.

### Innovation incentive policy in foreign countries and Hong Kong and Taiwan

In the increasingly competitive era of globalization, international science and technology level has become a symbolic measure to a country's comprehensive national strength. As shown in Form 2.

Table 2 List of policies to encourage entrepreneurial innovation

Region	Policy content
Canada	Industrial Research Assistance Program, IRAP, from 1 April 2009 to 31 March 2011, expanded to small and middle-sized enterprises, and \$30 million to help graduates to work for enterprises, and develop innovative products and services.
Chile	Subsidy to Contract Professional and Technicians in Companies to Develop R+D and Innovation Projects, conducted in May 2009. Innovation Project Fast Track, from May to August in 2009.
Japan	The integration of agricultural, commercial and industrial use of regional resources have been put forward. Plans to expand the innovation of science and technology investment, etc since July 2008
Hongk	Innovation and Technology Fund, employ graduates to cultivate talents and

ong	the ability of research. The Small Entrepreneur Research Assistance Programme will be improved from 2 million to 4 million Hongkong dollars.
Taiwan	Entrepreneurial pilot plan, to establish in the north of Taipei, April 2009, eastern, southern district of entrepreneurial innovation service center small and medium-sized enterprises.

In the field of talent cultivation, many countries also took a lot of incentives. For example, Immigration laws have been amended constantly in the USA so that it will attract large quantities of foreign technological and professional talents. Added to the EU in recent immigration policy elite and skilled migrants to attract preferential terms and conditions, immigration EU create favorable conditions for high technology talents "blue card" system began to compete for talent with other countries. By defining the national strategic position of science development planning, talents to give greater choice direction and autonomy; Actively introduce talents, attract high-quality crowd; Create a good social innovation culture atmosphere and free academic atmosphere; Establish efficient salary incentive mechanism, higher wages, encourage the social from all walks of life to innovative entrepreneurship.

### **Suggestions on innovation incentive policy in China**

Innovation incentive policy of China is still not perfect. Based on analyzing the innovation incentive policies in China and absorbing the advanced experience of foreign innovation incentives, we make the following suggestions to perfect China's innovation incentive mechanism

To increase the government's macroeconomic regulation and control.

To improve the motivation of technological innovation in enterprise market trading system and market competition system, standardize the order of market competition.

To Create a social atmosphere conducive to the development of talent.

To Encourage enterprises to improve the system of internal innovation incentives, giving employees greater autonomy and the opportunity to participate in enterprise management and operation.

To sum up, using the experience of foreign economic development innovation policy, perfecting the domestic innovation incentive policies, cultivating and attracting creative talents, and strengthening independent innovation ability will inject new vitality to the development of the Chinese economy.

### **References**

- [1]W.J Yan.Analysis on policy of enterprise technology incentive in each country[J]. Contemporary Economics, Tianjin 2007(08) (In Chinese)
- [2].X.Q Deng.National policy on promoting technology innovation The state economic and trade commission department policies and regulations (In Chinese)
- [3].X.G Yang.Relative theories and experience reference of systems of innovation incentive policy of foreign technological talents.Zhejiang technology university science and technology department. Zhejiang Hangzhou (In Chinese)
- [4]Beijing. Beijing Technology Innovation Action Plan (2014-2017). [EB/OL]. <http://zhengwu.beijing.gov.cn/ghxx/qtgh/t1352269.htm>, 2015-03-31(In Chinese)
- [5]Beijing. Action plan on speeding up the construction of Zhongguancun talents DC(2011-2015).[EB/OL]. <http://www.zgc.gov.cn/zcfg10/bjs/76506.htm>, 2011-11-21 (In Chinese)
- [6] Q.Q Gu Policy incentive mechanism research of technology innovation in our country 2008 (8) of economic(In Chinese)

- [7]X.B Fang Developed countries encourage enterprise technology innovation policy analysis enterprise review 2012 (1) (In Chinese)
- [8]T Li The fiscal incentive enterprise innovation in science and technology policy research Shandong university of finance and economics In 2013, (In Chinese)
- [9] Y Chen ,S.G Wang Improve the scientific and technological innovation talent incentive mechanism and its policy The Chinese academy of sciences institute of science and technology policy and management science Beijing (100190). (In Chinese)
- [10]Y Chen Changsha-zhuzhou-xiangtan experimental zone enterprise talent incentive mechanism research of science and technology Central south forestry university of science and technology In 2012, (In Chinese)